Andrew Taylor.

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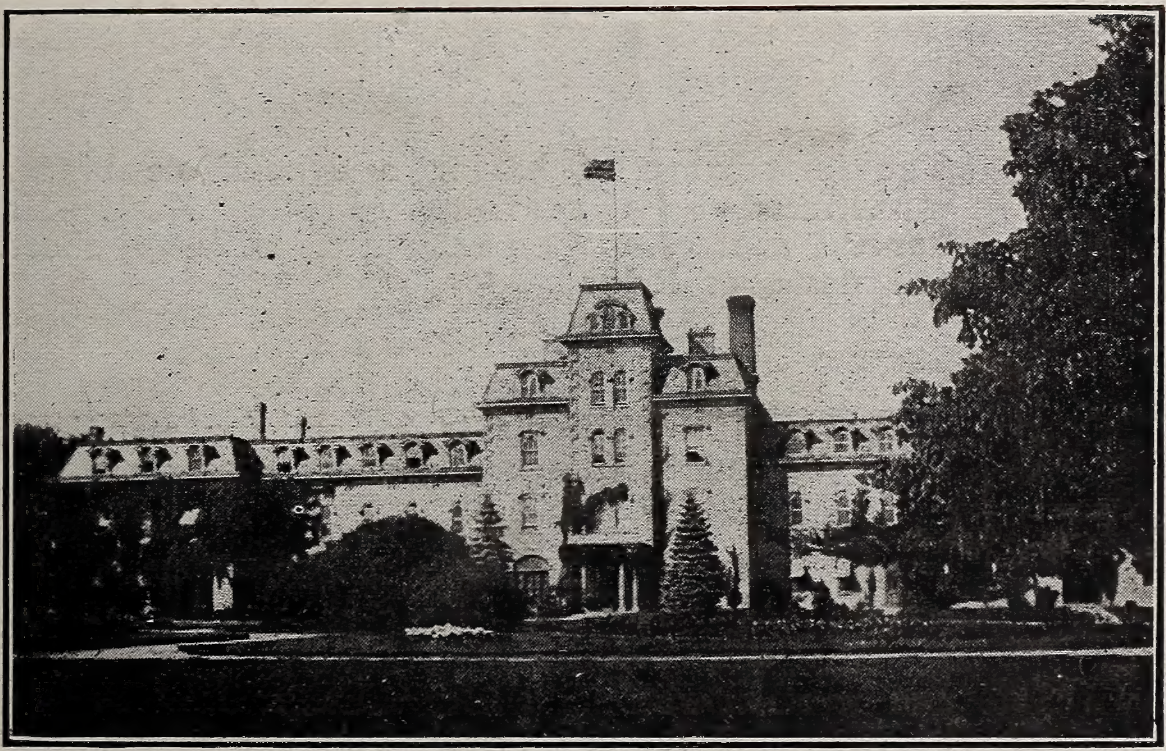
O·A·C REVIEW

Published in the Interests of Agriculture



SEPTEMBER, 1926

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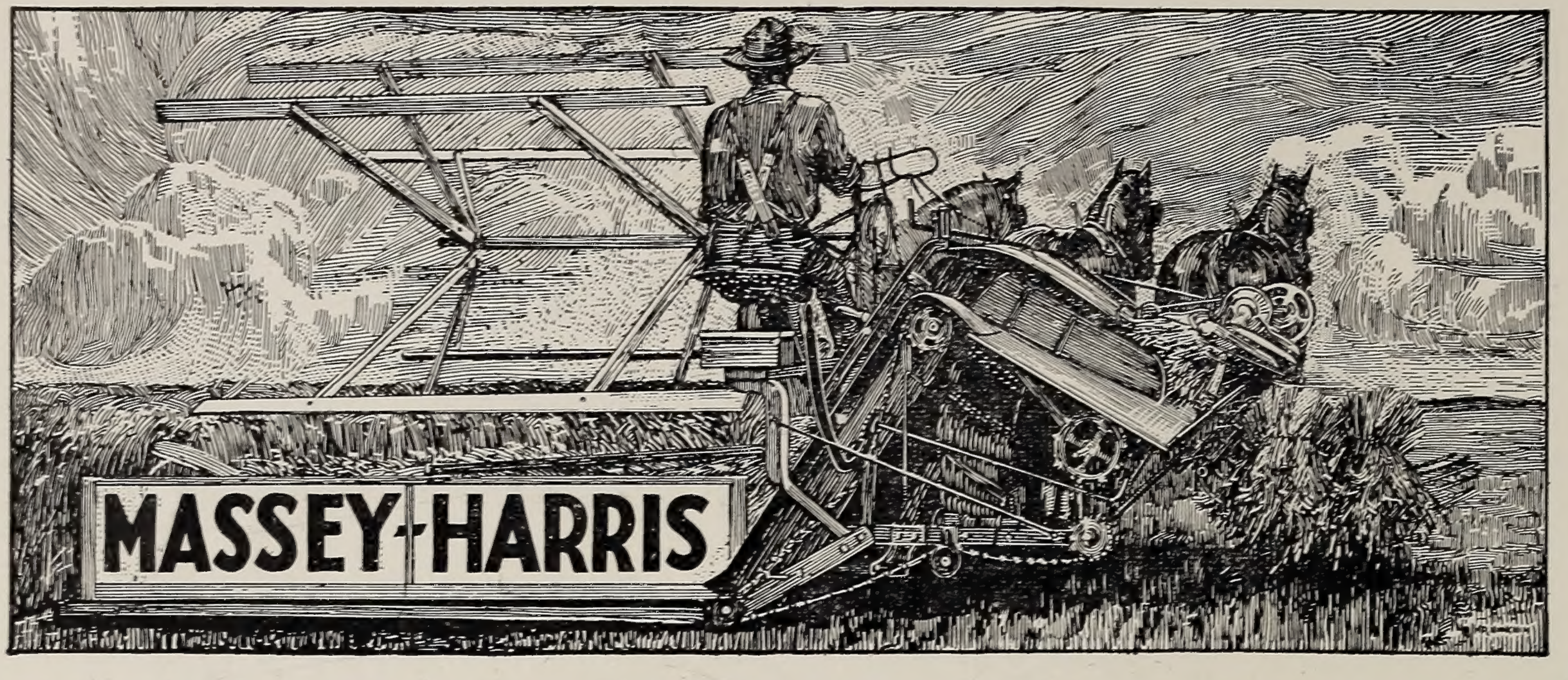

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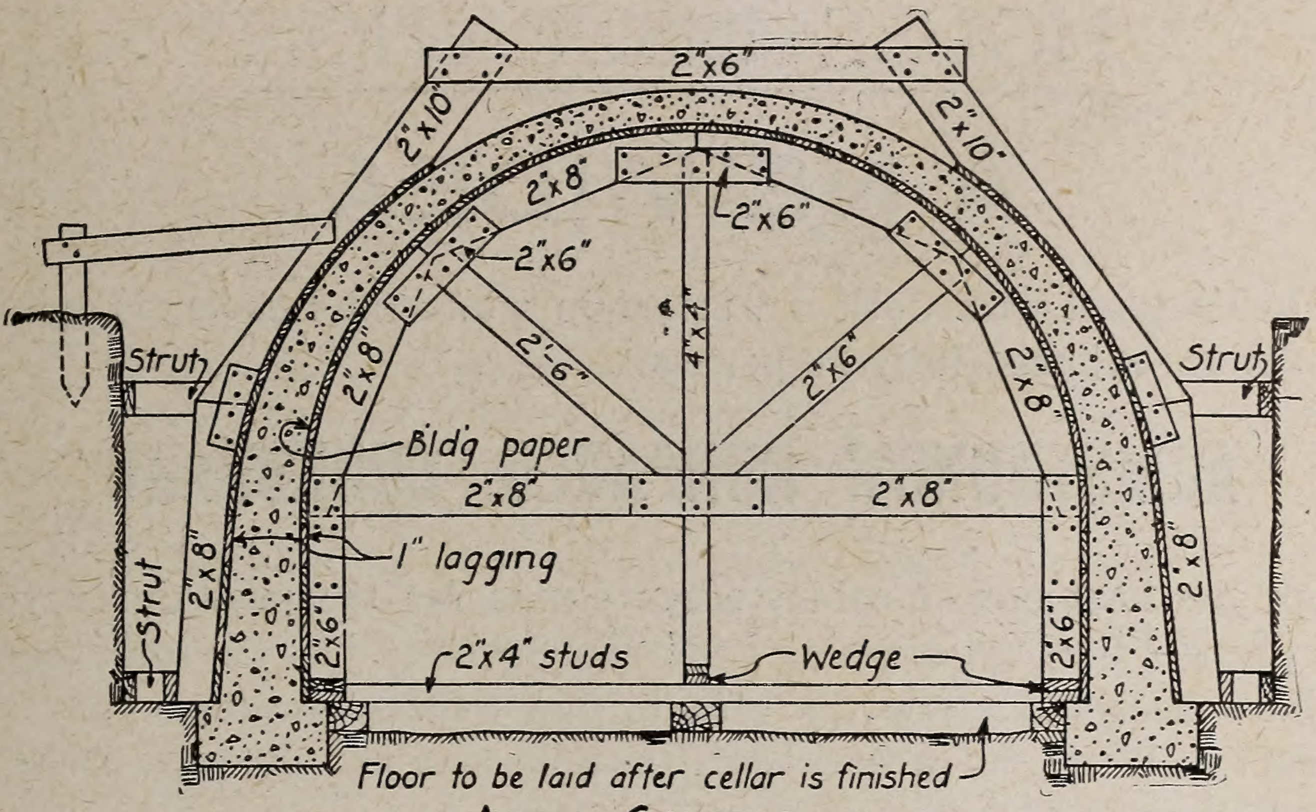

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A Picturesque Orchard Scene in Nova Scotia.

THE O.A.C. REVIEW

"THE PROFESSION WHICH I HAVE EMBRACED REQUIRES A KNOWLEDGE OF EVERYTHING"

VOL. XXXIX. GUELPH, ONT., SEPTEMBER, 1926 1

Massey Library—How to Use It

By Annie O. Hallett

THE College Library occupies the upper floor of the building on the campus known as Massey Hall and Library, the generous gift of the Massey family of Toronto. It consists of a large, bright reading-room, well equipped with tables and individual lights, a periodical room, and two offices. Three stories of steel book-stacks, capable of accommodating 75,000 volumes, adjoin the reading-room.

Work in the library must supplement that of the class-room and laboratory, and early in his college course a student should acquaint himself with the library, learning how to intelligently use the various devices common in libraries for finding what the library contains. A knowledge of how to use the various catalogues, the reference books, the periodical indexes, and so forth will make possible the fullest use of the resources of the library.

Classification

As our students are allowed the privilege of entering the stack, a word about the classification may be of interest. The books will be found arranged in groups according to subject, and cards posted here and there throughout the stack direct one to the various groups. The classification used is known as the Dewey Decimal system, with an expansion of the agricultural section, it being entirely inadequate for an extensive collection of agricultural books. According to this classification, books are divided into ten classes and numbered as follows:—

000—General Works (General encyclopedias, periodicals, etc.)

100—Philosophy (Logic, psychology, ethics, etc.)

200—Religion (Christian and non-christian beliefs, bible, church, etc.)

300—Sociology (Political science, political economy, law, education, commerce, etc.)

400—Philology (Language.)

500—Science (Mathematics, astronomy, physics, chemistry, etc.)

600—Useful Arts (Medicine, engineering, agriculture, etc.)

700 — Fine Arts (Architecture, sculpture, drawing, painting, etc.)

800—Literature (of the different countries.)

900—History (of the different countries, travel, biography, etc.)

Each of these classes is divided into ten divisions, and each division into ten sections. If further division is required, a decimal point is used, and beyond this the subdivision is carried as far as is desirable.

When a book is received in the library, it is examined and assigned to the group to which it belongs and given a class number. A book on general botany, for example, is assigned to the botany group and given

the number 580, botany being the eighth division of the science class, 500. This number, 580, is called the class number of the book. But we may have a hundred or more books on general botany, each marked with the class number 580; in order to be able to find the one required quickly, we further arrange them in their class alphabetically according to the author's name, assigning to each book what is called an author number. The author number for Densmore is D413; for Ganong, G198; the letter D and G standing for the initial letters in the names of these two authors. We add to this author number the initial letter of the first word in the title, for further arrangement in case we may have more than one book in a class by the same author. These two numbers, class and author, together make up the call number of the book; hence the call number for Densmore's General Botany is
580
D413g; that for Ganong's, 580
G198g.

The arrangement of the books in their various groups is by the class number. Those marked 581 follow those marked 580 but precede those marked 581.1.

Books of fiction in the college library are not given a class number, but are simply arranged in their particular group alphabetically, according to the author's name, and the book is given an author number. The call number for George Eliot's Silas Marner is E42si.

Books of biography are marked with the letter B instead of being given a class number and are arranged in their group alphabetically according to the name of the person whose biography is being written; for example, the call number of Bradley's biography of Wolfe is
B
W855b, the b following the number standing for the initial letter in the name of the person writing the biography, and the W preceding it for the initial letter in Wolfe's name.

Catalogue

The catalogue, which is an index to the books in the library, is contained in the cabinet to your right on entering the reading-room. At one time libraries issued their catalogues in printed form, but this was not found satisfactory. Most libraries have adopted what is known as the card catalogue, with an entry for each book on a separate card; new books can be added to such a catalogue from time to time and lost or worn-out books withdrawn, and the catalogue kept more or less up to date. Every book is entered in two or more places in the catalogue—under its author's name and under one or more subject headings. Only books of fiction and books with striking titles are entered under title, as the exact titles of books are not often remembered and title cards are, therefore, not of much use. The cards in the catalogue are arranged alphabetically according to the first word printed on them, and you look for the author's name or the subject of a book in its alphabetical place as you would for a word in the dictionary; hence the name given to the catalogue—Dictionary card catalogue. The call number of the book is found in the upper left hand corner of the card.

When desiring a book, fill in the call slip with the call number, the author's name, and the title of the book, and sign your name to it before presenting it at the desk.

Reference Books

Reference books are those which are used primarily for reference work. These books cannot be taken from the reading-room, as they must be on the shelves for consultation at all times. If unfamiliar with a reference book, time can be saved in using it by first spending a few minutes examining it as to its arrangement, contents, and so forth. The reference collection in the college library is found on shelves about the reading-room.

Turning to your left on entering the library and walking round the room, you will find on the first group of shelves you pass the reference books pertaining to religion and literature; also our Who's Who books, which contain short biographical sketches of notable living persons.

Our two principal encyclopedias, the Encyclopedia Britannica and the New American, are to be found on the second group of shelves; also our atlases and gazetteers. Here, too, are some very useful books of statistics, such as, the Stateman's Yearbook, the Canada Yearbook, Heaton's Annual, the 1920 U. S. Census report and the 1921 Canadian Census. A dozen or more copies of the Canadian Annual Review give a pretty full account of events in Canada during the last few years.

The third group of shelves does not contain reference books, but in passing it might be well to refer to it. Here are filed some of our later books. These may be taken from the library on being charged at the desk in the regular way.

Continuing your course, you will find directly in front of you another group of reference books. With the exception of the encyclopedias on agriculture, horticulture, chemistry, and physics, most of the books in this group are duplicates of books in the stack for use in the reading-room. On these shelves are also to be found Poole's Index, the Reader's Guide to Periodical Literature, and the Agricultural Index, to which I shall refer later. Nearby are the catalogues to the publications of the U. S. Department of Agriculture at Washington and those of the U. S. Agricultural Experiment Stations.

On the table in the centre of the reading-room are to be found the dictionaries—English and foreign; also the Nelson Loose-Leaf Encyclopedia, the Dictionary of National Biography, and a few reference books on history.

Magazines and Magazines Indexes

The library subscribes to a large number of periodicals — literary, scientific and agricultural. The current numbers of these are to be found on file in the magazine-room for use in the library. Back numbers are filed in the stack and can be obtained on application at the desk. These are bound from year to year and form a very important part of our reference library, being especially helpful in the preparation of papers, speeches and debates, as they contain information on questions of current interest nowhere else available. The periodical indexes to which the library subscribes make the information in periodicals available when required.

The idea of indexing periodicals originated with W. F. Poole, a student at Yale College and librarian of his college society. Realizing that the periodicals with which the library was well supplied were not used he indexed such magazines as were accessible for the purpose of helping the students in the preparation of their written exercises and society discussions. This led to a larger work along similar lines, and we today have Poole's Index to Periodical Literature, 1802-1881, and its five supplements, 1882-1906, indexing 470 American and English periodicals of the nineteenth century.

The Readers' Guide to Periodical Literature, which began publication in 1900, continues this work. This Guide indexes general magazines, some United States government publications and reports of associations. In the front of each volume are listed the periodicals indexed. It is an author and subject index arranged alphabetically. The Supplement to the Readers' Guide began publication in 1907 and indexes less common general periodicals which are not indexed in the Readers' Guide.

If we were asked at the desk for something on, say, the Locarno Conference, we would immediately refer the applicant to the Readers' Guide for 1925, the Conference having taken place that year. In the November issue of the Guide under "Locarno Conference" are found nine references, the first two of which are as follows:—

Around the Locarno agreement, Liv. Age, 327, 217-219, Oct. 31, '25.

Europe faces forward; an account of the Rhine pact, with a radio postscript from Locarno, E. F. Baldwin. Outlook 141, 310-311, 0.28, '25.

The first of these articles appears in the periodical Living Age, vol. 327, pages 217-219, in the October 31, 1925, issue, and the second in vol. 141 of the Outlook, pages 310-311, in the October 28, 1925, issue.

A very important index for an agricultural college library began publication in 1916. It is called the Agricultural Index and indexes a large number of agricultural periodicals, in addition to the publication of the Departments of Agriculture of the United States and Canada; also those of the Agricultural Experiment Stations. The material is indexed under subject and the arrangement is alphabetical.

These indexes index more periodicals than we have on file in the library, but alongside the volumes of the Readers' Guide and the Agricultural Index are to be found typewritten lists of the periodicals in the library indexed in each. Students should consult these lists in copying references to avoid writing down a number of useless ones.

Catalogues to Publications of the U. S. Department of Agriculture and the U. S. Agricultural Experiment Stations

The College Library is on the mailing lists of the United States Department of Agriculture and the United States Agricultural Experiment Stations to receive their publications as they are issued, and we probably have as complete a file of such publications as there is in any library in the Dominion. We also have catalogues to the same, which make the literature available to our students. The catalogue to the U. S. Department of Agriculture publications stands to the right of the door leading to the magazine-room, and that to the publications of the U. S. Agricultural Experiment Stations opposite it. These are both card catalogues.

The catalogue to the publications of the U. S. Department of Agriculture is similar to our library catalogue, the publications being entered under author and subject and the cards arranged alphabetically accordingly to the first word printed on them. These publications, however, are not assigned a call number as are our books. To find one of these publications we must be given the number of the bulletin or circular required, together with the name of the Department issuing it. This information is given on the card following the author's name and the title of the publication and is enclosed in brackets, for example, (U. S. Department of Agriculture. Bulletin No. 1061).

The catalogue to the publications of the U. S. Agricultural Experiment Stations is a little different from the others. Tacked on the top of the catalogue cabinet are to be found typewritten sheets containing the key to the catalogue. The arrangement of the cards, it will be seen, is according to subject, the subjects being numbered and the numbers on the labels of the drawers in the catalogue cabinet corresponding to the same. Supposing you were consulting this catalogue for references on, say, vegetables. From the key you would find that vegetables are assigned the number 5.21. Turning to the drawer in the catalogue cabinet marked 5.21, you would find the references you required on the subject vegetables. Here again at the desk we require the number of the circular or bulletin in which the information is contained and the name of the Experiment Station issuing it. The publications of the Experiment Stations are indexed in this catalogue up to 1916. For later publications you would have to consult the Agricultural Index, as the Experiment Stations ceased indexing their publications on cards after the Agricultural Index began publication, considering it a duplication of work.

Publications of Canadian Departments of Agriculture.

From 1916 these publications are indexed in the Agricultural Index, but we hope soon to have a catalogue to the same that will make them as available to our students as are the publications of the United States. A good deal of work has already been done on this catalogue.

Package Library

Several years ago the Library began the work of sending out literature to people in rural districts, to assist them in preparing papers, debates, etc. This literature consists of clippings from newspapers and periodicals and typewriten articles. Owing to a reduction in the library staff two years ago, it was found advisable to transfer this work to the Extension Department, and it is now being carried on under the supervision of Mr. Lionel Stevenson. The literature in the Package Library is largely a duplication of material on

(Continued on page viii)

Cream Grading in Ontario

By John H. Scott, Chief Creamery Instructor

CREAM Grading is the subject most talked of to-day in connection with the butter industry of Ontario. Producers in the more competitive districts have been very busy trying out the different creameries, endeavoring to learn if there is anything in this cream grading talk that has been so prevalent during the past year. "Splitting" cans of cream, sending part to one creamery and part to another, has been very frequently practiced by the skeptical producer. Sending alternate days, or alternate cans to two or more creameries, has also been quite frequently done. All with the idea of ascertaining where best results can be obtained. It is not to be assumed that producers are opposed to cream grading if it is properly applied, but the suggestion has been made by the more skeptical, that the cream grading legislation was introduced at the instigation of the creamery interests, and for their special benefit.

After three months of application of the Act, we are curious to look around and see if, in this short period, there are any indications that the results will eventually be in the interest of better butter. The butter, as graded at the Ontario Butter Grading Station, affords plenty evidence of the efficiency of proper grading, some creameries having more first grade butter in one week, in 1926, than they had in all of the season of 1925, under the flat rate system. There is just one "fly in the ointment" hindering the successful operation of cream grading. Of course it was always the stumbling block to a voluntary system. That is the element of selfish competition. The word "selfish" is used advisedly, because fair competition is not a hindrance, but a help. Fair competition narrows the competitive factor to legitimate practice. Selfish practice is the desire to misrepresent the grades, thereby creating distrust and suspicion in the minds of the producers, and an antagonistic competition between creameries. Selfish competition, is the taking in by one creamery, of cream at a higher grade than was given at another, for the sake of receiving for the future, the patronage of this particular patron, and those whom he may influence. The benefits from buying cream on grade are so apparent, that there is no likelihood of an agitation for the repeal of the legislation. The legislation is not perfect. The regulations may require amendments, but after three months of experience, it may be said that the application of the Act, has been successful. In all districts there have been some irregularities. Some of them very flagrant, and some of them where least expected. Thus far, it has not been necessary to prosecute. A fair estimate would be, that 90 per cent. of our creamery operators have made an honest effort to "play fair" in the operation of cream grading. The task of the future, is to convince the other 10 per cent. of the futility of opposing the regulations, and of converting the skeptical so that they may get a vision of the benefits derived from a perfect application and enforcement of the principal of paying for cream according to its commercial value.

The season has been remarkably adapted to the production of a good raw material. The producers of cream have had fortunate assistance in cooling cream, by the delightfully cool nights which have generally prevailed. When producers of cream learn that the best grades of cream can only be obtained by cleanliness in every respect, and temperature low enough to prevent the development of acidity, or souring, then we will have the support of all producers in an endeavor to raise the standard of Ontario butter as it should be, so that there is none better.

Facts About Canada

Area—3,729,665 square miles; slightly larger than the United States.

Population—Latest estimate, 9,364,200. Homes owned, 1,239,150.

National Wealth—Estimated at $22,195,000,000.

Agriculture—Estimated agricultural wealth over $7,500,000,000.

Forestry—Average annual value of forest products $300,000,000.

Mining—Value production, 1925, $224,846,237.

Water Power—Total turbine installation available, 41,700,000 h.p.

Manufactures—Gross production, $2,781,165,514; net, $1,311,025,375.

Railways—Total railway mileage, 40,061; largest per capita in the world.

Education—Pupils, 2,206,799; public school expenditure, $119,908,735.—By R. H. Coats, Dominion Statistician in the Christian Science Monitor.

Students Should Study The Show-ring

By Wade Toole

FROM the viewpoint of the student of live stock, there is no more interesting time in the year than the season of fall shows which is again at hand. Every agricultural college student should have some knowledge of the progress made in breeding and fitting from year to year and all those specializing in Animal and Field Husbandry should plan to study the showyard as a means of fixing type. It is always well to make at least a part of the time spent at the exhibitions of educational value.

Old timers often tell us that no progress has been made in the breeding and feeding of animals since they were boys. They will cite certain champions of several decades ago and compare them, in their minds, with present-day winners and lament the lack of progress. Perhaps they are right, but, whether or not the tops of the breeds are better or not better than they were in days gone by, there is a general feeling among those who have studied the situation that progress has been made particularly through early maturity, smoothness and improvement in the herds as a whole. True, it has been difficult to improve upon some former champions. The outstanding winners in any one year must be real animals. However, same changes have taken place in showring ideals and these are worthy of note by the student.

Breeding classes should always prove of great interest to the student. They set the type for the breed. They represent the foundation for future breeding work of the highest order. Their potentialities are difficult to estimate. The judge who places them has a much more serious task than simply dividing the prize money between the exhibitors. He is setting the fashion for the breed. He is placing his seal of approval and his actions are watched by exhibitors and spectators who may later, consciously or unconsciously, follow the lead he has shown.

The Agricultural College student should get the most out of the judging. He should study the type approved by the judge. He may not agree in every particular with the judge's placings, but he will likely find that in the grand summing up of results that the judge has had a true type in mind and has stuck as closely to it as the lack of conformity of the entries would permit.

In the breeding classes of meat animals changes have taken place as compared with the early shows. In beef cattle, compare the modern, low-set, smooth, even entry with the artist's conception of "The White Heifer that Travelled." Modern market demands have made it necessary that breeding stock produce early maturing progeny, smooth to a turn, fine in quality and evenly fleshed. In the matter of fitting, breeders are realizing that it is better not to so overfit as to injure the fecundity of their stock. Accordingly, judges recognize breed character and indications of type and reproducing ability as of more importance than great gobs of surplus fat. Breeding stock should be shown as breeders and the student has a wonderful opportunity to study breed type and character at the larger shows.

In the fat classes of cattle butcher judges have done something toward improvement in quality. People like lean meat properly marbled with fat. Extraneous outside fat is not tasty or edible to the average citizen and the modern fat bullock must be deep, thick, compact, smooth and full of lean meat. Size is secondary to quality in the finished beef cattle showring. The student should, where possible, get his hands on a few of the tops in the finished classes in order to familiarize himself with the firmness of touch necessary to the production of a carcass with a large eye of lean properly streaked or marbled with fat.

In dairy cattle, the student will notice, that notwithstanding the fact that evidences of production are given due recognition, breed type and breed character are of prime importance. Long, level, smooth, strong, well-balanced stock with straight, level quarters, good middles and plenty of size and constitution according to breed are necessary to the reproduction of the right kind. Of course milk cows, to win, must show the proper size, balance and texture of udder and this never should be overlooked, but the student will find as years go by that breeders are always particular about type and, in some breeds, are stressing this point even more than they formerly did.

In hogs, in this country, type is almost everything. A good bacon hog shows not only length but smoothness, trimness, balance, bone, constitution and carriage. He is not merely a long streak on lean legs carrying nothing but a hungry squeal. All recognized bacon breeds should be studied at the shows from the viewpoint of the proper combination of breed and bacon types and the proper degree of finish for the market classes should be given special consideration.

Sheep present a problem to the average student and so should receive close attention. Sheep breeders are very particular about type in their various breeds. No better opportunity is afforded the student of live stock to study breed type than at a large exhibition. Good sheep, properly brought out, are there, and while little chance for handling may be had a great deal may be learned with the eye alone, while it will be noted that, in the finished classes, the lighter weight lambs and wethers, firm but not too fat, are always preferable.

So far as horses are concerned the agricultural student should observe all classes but should focus most of his attention on the heavier breeds. Study type. Watch the winners. See that they show the proper balance of massiveness, muscling and middle with the clean-cut, wearing quality of bone, pasterns and feet so appreciated by all good horsemen. Watch them go at the walk and trot. Boldness, straightness and trueness of stride make for ease in action, ability to work and to move heavy loads.

The showring should be a display window to the student spectator to be studied carefully, consistently and energetically as an important factor in his agricultural education.

Fruit Growing in Nova Scotia

By P. J. Shaw, Truro, N. S.

ALTHOUGH Nova Scotia is a small Province it produces for market from one-third to two-fifths the apples grown in Canada. It ships to the British market more apples than any similar area in the Empire. Nowhere else in Canada can apples be grown more easily than in Nova Scotia, and only a small part of the land capable of growing apples is yet planted to this crop.

The commercial apple crop for the five apple producing Provinces of the Dominion is given by the Fruit Branch, Ottawa, for the years 1921-1925 as follows:

COMMERCIAL APPLE CROP 1921-1925

	British Columbia Boxes	New Brunswick Barrels	Nova Scotia Barrels	Ontario Barrels	Quebec Barrels	Canada Barrels
1921	3,067,745	33,000	1,579,769	1,449,210	80,000	4,165,527
1922	2,761,200	30,000	1,493,852	1,304,250	141,039	3,889,541
1923	3,330,000	25,000	1,683,330	978,300	42,311	3,838,641
1924	2,676,097	31,250	1,276,225	684,810	71,175	2,955,492
1925	2,318,139	40,000	889,751	950,138	70,853	2,723,455
5 year average	2,830,636	31,850	1,384,585	1,073,342	81,269	3,514,531

"The commercial apple crop is esmated on the basis of all fresh fruit moved to market and does not include apples used for evaporators, canning or for the manufacture of cider and other by-products."

Position and Character of the Province

Nova Scotia is the most easterly Province of Canada. Lying on the 45th parallel of North lattitude, it projects well out into the Atlantic and is within easy reach of Great Britain.

The Province is possessed of abundant and varied natural resources. It is rich in mineral, forest, fishery and agricultural wealth. The soil and climate are well adapted to several lines of farming. One of the leading agricultural products and the chief agricultural export, is apples, the growing of which is the most important branch of farming in the Western part of the Province.

Because of the presence of natural hay land on many farms throughout the Province, the owners find some lines of live stock production profitable. Thus in the fruit section are produced not only apples and other tree fruits, small fruits and garden crops, but the various animal products of a diversified farming region.

The Advantages for Apple Production

The reason why apple production in Nova Scotia has made the progress it has is that apples can be grown here as cheaply as anywhere in the world, and of as good quality as elsewhere, and because of Nova Scotia's Maritime position, can be placed on the world's markets as advantageously as from any other country. Thus the conditions necessary for the development of any industry—cheapness of production, quality of product, and ready access to markets—has resulted in the development of apple culture in Nova Scotia until the industry has reached an important export basis.

The Productive Area for Apples

Forty-five years ago the average annual export over a five year period was 23,920 barrels a year. During the five year period 1921-25 the average was well over one million barrels. In two years 1919 and 1921 the total estimated annual production exceeded 2,000,000 barrels.

The production of this quantity of apples is more noteworthy when the size of the present area engaged in commercial apple growing is considered. The fruit belt proper of Nova Scotia consists of a narrow strip of territory, 6 to 10 miles wide and about 100 miles long, stretching from about Windsor in the east to Annapolis Royal in the west. This area, locally known as the Annapolis Valley, is spoken of as the fruit district of the Province. Many other parts of Nova Scotia produce excellent apples and other fruits. Some of these places engage in the export trade. But it is in the Annapolis Valley chiefly that the apple business has undergone the greatest improvement.

The Climate

The climate of Western Nova Scotia, including the Annapolis Valley, is well suited to apple growing. The winters are somewhat long and occasionally severe, but the ground is usually well covered with snow. The spring is generally late, apples blossoming from May 24th to June 10th, but when once settled, warm weather arrives and growth is rapid. A person accustomed to conditions of farming and gardening in Ontario would find the springs in Nova Scotia late and cold, and the growing season short. The winters in the greater part of the Province are cold enough to kill peach trees and the growing season is not long enough to bring grapes to full maturity.

The other perishable fruits, such as pears, plums, cherries, strawberries, etc., are as easily grown in Nova Scotia as are apples, but their production is necessarily limited by the requirements of the local markets. The cranberry, on the other hand, is a fruit which might be much more extensively grown than it now is, since it can be shipped to distant markets and much land is still available for its culture.

The Nova Scotia fruit grower is thus limited chiefly to the apple as a fruit which can be grown on an extensive scale to be sold in the world's markets. This, however, is not without its advantages. A community of interest is created where people living in close proximity are engaged in the same kind of production. One grower learns from the experience of another. Agencies for the diffusion of information relating to the industry are more easily maintained and facilities for furnishing necessary supplies, such as fertilizers, spray materials and packages are more likely to be available than if there were a greater diversity of interests and employment. The growers are more apt to concentrate their efforts in the attempt to study and to master their problems than they are when it is easy to change from one thing to another.

In common with its trend in other fruit producing countries, apple growing in Nova Scotia is becoming more and more a commercial enterprise. The old home orchard, or the orchard carried on as a side line to some other branch of farming, is becoming less and less able to compete in the markets of the world. Competition has become so keen that every advantage of soil and of climate counts, and the undivided attention and effort of the grower is needed if he is to hold his own against all comers.

Orchard Practices

As a rule, apple orchards in the fruit district of Nova Scotia are well tilled, fertilized, pruned and sprayed. Some apple growers, who have orchards on deep, rich, moist soil, find that profitable crops of clean well-colored fruit can be grown by keeping the orchard in sod and fertilizing liberally with nitrate of soda and with phosphates where needed. But under ordinary soil conditions tillage is considered the safer orchard practice. This tillage consists in plowing once a year, either in fall or spring, and harrowing several times through the months of May and June. A cover-crop is usually sown in July to occupy the ground until fall.

Orchards are pruned on fine, warm days in winter or in early spring. The area in orchards on most farms having out-grown the supply of barnyard manure, the fertility of the soil is maintained by the use of commercial fertilizers and cover-crops. When manure is available it is used, especially on ground planted with young trees before they reach the bearing age, where hoed crops may be grown either as cash crops, or for feeding to live stock.

Picking and Packing

For the production, keeping and shipping of late fall and winter apples Nova Scotia has an asset in the cool, fine weather which usually prevails in September and October. The weather also during the winter tends to keep the apples in good condition until they can be packed and put on the market. Apple picking, for early varieties, begins by the middle of August. For fall and winter varieties picking continues through September and October. When apples are picked they are hauled in barrels to warehouses at railway stations, where they are graded and packed and loaded in cars for shipment. Late varieties are stored in these warehouses for packing and marketing in the winter season. One hundred and fifteen or more apple warehouses have been built along the line of railway which traverses the length of the fruit district. These warehouses are generally built on railway land for convenience in loading the apples into cars, and are either privately owned or owned by co-operative fruit companies. They are from 40 to 80 feet wide and from 50 to 160 feet long, each capable of handling from 20 to 60 thousand barrels of apples in a season.

Co-Operation

In 1907 the first co-operative fruit company in the Annapolis Valley for marketing apples was formed at Berwick, N. S. Since then some 45 or 50 similar organizations have been formed in the fruit district and those have been united to form a central selling Association called the United Fruit Companies of Nova Scotia. This central Association not only controls the sale of about 40 per cent. of the apples of the fruit district but buys co-operatively for the members of the subsidiary companies many of their supplies for orchard and farm work. These supplies include fertilizers, spray materials and equipment, seeds and feed.

Varieties Grown

The varieties of apples mostly grown in Nova Scotia for the export trade are those kinds which sell best in the British market. These include Gravenstein, Blenheim, Ribston, King, Baldwin, Wagener, Cox Orange, Spy, Golden Russet, Nonpareil, Ben Davis and Gano. Varieties earlier than these are grown for the local markets, as well as many old fashioned varieties which are also sold locally.

Assistance to Fruit Growers

The agencies for aiding and enlightening fruit growers in Nova Scotia are numerous. The Nova Scotia Fruit Growers' Association was formed in 1863 and has 63 years of useful work to its credit. The United Fruit Companies not only perform an invaluable service for the fruit growers as a selling and a buying agency, but also has an important educational influence as well. Two Dominion Experiment Farms and several illustration stations in Nova Scotia and the Provincial Agricultural College at Truro are Government supported institutions in aid of farming and fruit growing. The bulletins from the Central Experimental Farm, Ottawa, and the services of the Horticultural and allied Scientific Divisions of the Dominion Department of Agriculture are freely used by the fruit growers in Nova Scotia.

The Agricultural papers of both Canada and the United States are easily available to any one in Nova Scotia. Where these periodicals keep chiefly the interests of the farmers and fruit growers in view, as the best of them do, they act as a stimulus to thought and a means of education.

The Farm and Incomes

The farms of the fruit district of Nova Scotia vary in size from 50 acres or less, to 150 or 200 acres, or more. The orchard plantings on such farms vary from 5 to 10 acres for the smaller, up to 20, 50 or 100 acres, or more, for the larger orchards. The value of the farm is determined chiefly by the size, condition and productiveness of the orchard, and also partly by the extent and conditions of the buildings and hay land. Farms are valued from $2,000 to $5,000 for the low priced up to 20 or 50 thousand dollars for the high priced farms, but out on the margin of the fruit belt may be found farms quite as productive as some of these for from $1,800.00 up. The income from these farms is not always directly proportional to the price. Many such farms are highly desirable as homes for people who like to live in the country and yet enjoy many of the advantages of the town or city, such as the telephone, electric light and power, running water in the house and nearness to churches, schools and railways. If one is willing to forego some of these advantages he may live farther back from the railway and the main highway, investing his capital more largely in income producing property rather than in the most modern conveniences of a home.

The apples and other products of a farm in the Annapolis Valley may bring a gross income of $1,000 to $3,000 a year on the lower priced farms, or $5,000 to $20,000 on the best farms, depending upon the management and the amount of circulating capital in use. There is an opportunity here for persons who have some capital and who like farming and an independent home in the country.

A Corner of an Apple Packing House at Kentville, N. S.

After-Harvest Work Against Weeds

By Herbert Groh

THE time to start fighting weeds is in the spring, and among the prerequisites to success is the early sowing of clean plump seed, of suitable varieties, in a seed-bed that is well-prepared as regards drainage, fertility and tilth. By starting the crop vigorously we enable it to hold its own to the end with the minimum growth and seeding of weeds. However, in spite of the best of care there will always be weeds demanding some extra attention. In cultivated crops this can be given the season through, and especially before harvest; in grain and hay there is little opporunity until the crop is off. If not delayed then too long, many of the weeds of these crops can still be taken in hand, and some of them with the greatest of timeliness.

Some weeds like ragweed and Russian thistle push up rapidly about this time. Where grain has been seeded weed growth may have to be kept down by use of the mower, but other stubble should be worked over by means of a disc harrow or cultivator, or plowed very lightly. Besides preventing the seeding of weeds this also makes conditions favorable for the germination of seeds already in the surface soil, which can be destroyed in the later fall plowing. Some seeds—wild oats for example—do not germinate readily, if at all, the first season, but any farmer who has practised after-harvest cultivation knows that considerable germination of many weeds can be induced in favorable years.

After-harvest plowing of weedy hay fields is also desirable at the first opportunity that occurs. Such persistent perennials as couch grass, Canada and sow thistles, the hawkweeds, ox-eye daisy, etc., are probably at their weakest after using up their reserves in the attempt to mature seed, which timely cutting of the hay should prevent. Plowing at this season is not always the easiest done, but the dryness of the ground, if it does not prevent thorough work, is all to the good in weed destruction. Couch grass indeed, might as well be left alone unless the ground is somewhat dry. The plowing at this time need not be deep; for couch grass particularly it should be only deep enough to get beneath the matted surface rootstocks. After plowing the object will be to drag the rootstocks into the drying sun by means of a spring tooth or other implement. Thistles and sow thistle will not be so readily dragged out, and can best be dealt with by the use of a duck-foot cultivator to keep all growth cut off as it appears. The amount of fallowing thus possible after the removal of a crop should go a long way toward cleaning a field, or at the least preparing for a cleaning hoed crop the following year. A rotation which allows of this procedure every three to five years will hold weeds reasonably well under control.

Many of the worst weeds of crops are also commonly weeds of waysides, pastures and waste places and should be cut by means of mower, scythe or spud, or hand-pulled after a rain, if only to prevent their seeding. Places which can be broken up and cleaned may be later reseeded if so desired, using strong-growing grasses and clover which will fully occupy the ground. Besides removing a menace to crops—and often to good-will among neighbours—a little puttering about in odd corners of the farm works wonders in making the old place more likeable. After midsummer such weeds rapidly become conspicuous, and may well claim some of the hours or half-days when wet weather has upset other plans.

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Picking Golden Russets at Canning, N. S.

More and Better Stock is the Solution of the Agricultural Situation in the Clay Belt of Northern Ontario

By L. H. Hanlan, M.S.A., Assistant Superintendent, Experimental Station, Kapuskasing, Ontario.

Address delivered at the meeting of the Northern Associated Boards of Trade at Haileybury, June 28th, 1926.

THE Dominion Experimental Station, Kapuskasing, is located some 548 miles northwest of Toronto; 706 miles east of Winnipeg, and about 175 miles south of James Bay, on an elevation of around 720 feet. This location is well suited for the carrying on of experimental work, the results of which should be applicable to a large portion of Northern Ontario, for the reason that it is situated about as far north as any farming is at present being done on the James Bay Slope.

Climate

The majority of the settlers in Northern Ontario, coming as they do from so many different parts of the globe have little or no definite knowledge of the climate of this country. At Kapuskasing, weather records have been kept for the past eight years and this information is available in printed form free of charge. These data show that over a period of eight years the average precipitation has been 23.72 inches per year with 13.2 inches of 55.6 per cent, occurring during the growing months of May 1, to September 30. This, on the average is a very satisfactory amount of rainfall for the growing of all the more common sorts of field and garden crops. Over a seven-year period the average yearly hours of sunshine are 1776, an even greater relative proportion of which is received during the growing period than in the case of the precipitation. The long days during the summer months together with a satisfactory amount of rainfall insure a more rapid growth than is obtained in most other parts of the province.

The minimum, maximum and mean temperatures of each month for the last 8 years are also shown in the weather tables. This information is particularly valuable to prospective settlers, who are anxious to learn something of the climate before they decide on a definite location. It is true that eight years may not be a sufficient length of time from which to definitely establish the climate of a country; but it is quite possible, in fact everything would seem to indicate that the climate is becoming milder as time goes on. This is caused by the removal of the green bush, and the bringing under cultivation of larger areas of land.

Field Husbandry

Comprehensive experiments have been established in field husbandry, including rotation of crops, rate of seeding, date of seeding, tile drainage, surface drainage, etc.

While in many parts of the north country, the settlers are not yet in a position to operate their fields under any definite system of crop rotations, nevertheless, information on this important phase of agriculture will eventually be required, and accordingly quite a large area of the Experimental Station had been laid out in 1922, in definite rotations which included a three-year rotation, a four-year rotation, two five-year rotations and a six-year rotation. The area allotted to each rotation is one acre for each year that the rotation covers. In addition to these rotations which cover twenty-three acres some forty-two acres are included in cultural experiments on various methods of building up the soil. The information from these experiments would not be complete until they had run at least one full cycle which in some cases would take six years. However, the results would be very interesting, and would become more valuable to the settlers, as time goes on and larger areas of land are available to place under the rotations which have proven the most satisfactory.

One of the first problems confronting the live stock farmer in this part of the province was a suitable substitute for corn to use as an ensilage crop; because corn has not given sufficiently large yields to justify depending on it for this purpose. The average yield of green material from twenty-five varieties at Kapuskasing in 1925 was 4 tons 1578 pounds per acre, which is very light compared with sunflowers or a mixture of oats, peas and vetch (O.P.V.) These are the two crops which seem to offer the greatest promise for silage purposes in Northern Ontario at the present time. A rate of seeding experiment with sunflowers has been conducted where the plants were twelve different distances apart as follows: Rows 24, 30, 36 and 42 inches apart with the plants thinned to 6, 12 and 18 inches apart in the row in each case. The results to date indicate that reasonably good yields of from 10 to 16 tons per acre of green material may be obtained from almost any ordinary rate of planting. Twenty-four inches, however, is too close for convenient cultivating and harvesting, and 42 inches seems a little wide. Where the rows were 42 inches apart and the plants 18 inches apart in the row the yield was somewhat lighter than those more closely spaced. Thirty to thirty-six inches between the rows with the plants spaced at from six to twelve inches apart within the row is probably about as satisfactory a rate of planting as any, because this distance gave good results and is also convenient for seeding, cultivating and harvesting.

The O.P.V. has been sown at 12 different rates per acre as follows: Oats, 1 bushel; peas, 1 bushel; oats, 1½ bushels; peas, 1 bushel; oats, 2 bushels; peas, 1 bushel; to each of these rates was added one-half bushel of vetch and to each of these six rates was again added 10 pounds of clover seed. The results obtained indicated that the mixture might be varied very considerably without materially affecting the yields obtained. However, a fairly heavy rate of seeding is to be recommended for the reason that full germination of the seed might not always occur.

A date of seeding experiment using sunflowers, corn and a mixture of O.P.V. has been conducted. The first seeding was sown as early as possible, and the other seedings at intervals of seven days until 6 seedings were under test. The results indicate that the sunflowers and O. P. V. gave larger yields from the earlier seedings, while the corn is better not sown until the last days of May, or the first days of June. Early seeding is advisable with these crops, as this gives a little larger yield and enables the farmer to get his work finished in good time in the fall. However, if for any reason a farmer cannot get his ensilage crops sown early he may seed them any time up to the middle of June, and still obtain a fairly large yield.

The results obtained from the tile-drainage experiment have varied some from year to year depending on the season. Good surface drainage, however, is an absolute necessity in order to get the land sufficiently dry in the Spring to permit of early seeding.

All ploughing should be done in the fall. The time of seeding grain in the spring of the year in this part of the province is not more than two weeks if best results are to be expected. The plow is too slow an instrument to use during this short period. Fall ploughing and good surface drainage have been found to go a long way in making possible the early seeding of grain at Kapuskasing.

Forage Crops

Most of the common forage crops, such as clover, alfalfa, grasses, annual hays, root crops, etc., give good results. Numerous experiments have been conducted covering variety tests of sunflowers, corn, clover, annual hays and root crops, besides a number of tests with various hay mixtures and the production of seed. Timothy is apparently a better grass for this country than either Orchard Grass or Meadow Fescue. Red clover does particularly well and a hardy northern grown strain is much better than southern grown seed.

Alfalfa has been grown since 1920 and is to be strongly recommended to any farmers who have a suitable location. Well drained fertile clay soil, sown with a hardy variety like Grimm or Ontario Variegated is almost sure to give good results. Mangels have not given as good results as turnips, and carrots have yielded very well.

Cereals

It should not be the ambition of Northern Ontario to become a strong competitor of the western provinces in the production of cereal grains; but it certainly should be producing its own requirements of wheat, oats and barley. Over a five-year period, Huron wheat has given an average yield of 27 bushels per acre, Marquis 25 and Ruby 19. Ruby is an early variety which would probably be replaced by Garnet—the new wheat distributed by the Central Experimental Farm at Ottawa this spring.

In the variety test of oats, over a four-year period Victory has given a yield of 66 bushels per acre, Banner 64, Gold Rain 64 and Alaska 51. The latter is an early variety and should be used if a farmer is experiencing any difficulty in maturing the later varieties.

Barley is an excellent cereal crop for Northern Ontario. On a five-year average O.A.C. No. 21 has given 40 bushels per acre, Manchurian 40, Duckbill 38, and Himalayan 32.

Exepriments carried on by the Canada Malting Co., of Montreal, have shown that O.A.C. No. 21 barley grown in the New Liskeard section was particularly well suited for malting purposes. This company was so favourably impressed with the quality of the barley that last year they donated seventy-five dollars in special prizes to the New Liskeard Agricultural Society for a "Combined Standing Field Crop and Seed Grain Competition with No. 21 barley." In addition they had purchased a carload of some 1,760 bushels of registered and Extra No. 1 seed barley at New Liskeard and had shipped it to the province of Alberta to be used as foundation seed. This was ample evidence that Northern Ontario could and should be producing at least her own requirements of cerial grains.

Horticulture

The work in horticulture has consisted of variety tests with all the common sorts of small fruits and vegetables, most of which have been found to do very well. Besides this, a number of cultural experiments have been conducted, the results of which should be very useful to settlers and town people alike.

Animal Husbandry

In the early days the settlers could sell all the hay that they produced for a good price. However, the production is now much greater than the demand and consequently the farmers are being forced into a different type of farming. The keeping of more livestock was the natural means of overcoming the difficulty. Foundation stock should be of good quality and the Experimental Station was rendering a valuable service in the distribution of good stock to settlers at reasonable prices, when otherwise many of these men would have to continue using scrub sires. This would not reduce the demand for purebred stock from breeders, but would rather increase it, owing to the extra advertising by the stock distributed from the Station.

Experiments, comparing the feeding value of Sunflower and O.P.V. silage had shown them both very desirable feeds for dairy cattle, beef cattle and growing calves. The sunflowers have given slightly the best results in milk production, and in body gain, but they froze harder in the silo and on this account were more difficult to remove.

Experiments with swine have shown that the self feeder will give larger gains than hand feeding, and at no increase of cost, although it has been observed that the pigs fed from the self feeder may not conform quite as well to the desired bacon type as those pail fed.

Clover pasture has been found to add very little to the economy of pork production; but is a very desirable means of summering the breeding sows.

Poultry

Good results have been obtained from the cotton front poultry house.

No artificial heat has ever been used and the fact that about 120 hens have average yearly records of nearly 200 eggs each, indicates that closed houses and artificial heat are not required for big production. One hen has laid over 300 eggs in one year, housed in a cotton front house.

An experiment conducted with skim-milk versus beef scrap has shown that skim-milk is the better of the two, although beef scrap may be used to good advantage by poultry keepers who may not have a supply of skim-milk.

Clover leaves have been found to be about equal to sprouted oats as a green feed, and do not require so much labour.

Electric lights have proven to be a big factor, not only in increasing the number of eggs laid, but also in lowering the cost of production. Their use is to be recommended wherever the power is available.

Crate fattening experiments, where 432 birds were used have shown that cockerels could be fattened at a profit, either with home grown grains, commercial grains or a mixture of both. A ration consisting of equal parts of ground wheat, oats, barley and corn meal plus skim-milk has given the best results.

Bees

The first bees which were brought into Northern Ontario about 25 years ago, died during the winter. However, bees are being successfully wintered at Kapuskasing, both in the cellar and packed in shavings outside in the bee yard, although the latter method was apparently the most satisfactory, as the colonies seemed to build up more rapidly in the spring.

Service to the Canadian farmer has been the motto of the Dominion Experimental Farms System for the past 40 years and service to the farmers of Northern Ontario has been, is now, and will continue to be the motto of the Experimental Station at Kapuskasing.

* * *

I have never believed that "it is the pace that kills. Monotony and worry are the two devices of the devil for killing the soul. When we cease to live hard and take risks, we are old. We must dare to live dangerously.—Dr. Elizabeth Sloan Chesser.

* * *

If one man lives in laziness, another will die of hunger.—Old Chinese Saying.

Putting Butter in Prints

By Prof. F. W. Bouska, Supt. of Beatrice Creamery Co., Chicago, Ill.

THE operation of a creamery consists of three activities: Procurement of raw material, manufacture and selling. The selling is the most vital of the three. It is the most subject to public, commercial and governmental scrutiny on quality, price, weights, composition and branding.

There are many advantages in packing foods in retail packages at the factory instead of the retail store. The quality is more uniform. The factory appreciates this point and is better equipped to carry it out. Placing its brand on the goods is an incentive to the factory to furnish definite quality under its label. The factory weighs more accurately and with less loss of material. It can fill and wrap at less cost and better. It buys wrappers cheaper and of more suitable quality. Its label may furnish information about food value, use and care, as well as advertise.

The volume of groceries sold varies through the day. It is a great convenience to have butter in prints ready to hand out when a rush of customers occurs. At such times, and in fact, at all times, the grocer will lose more butter in cutting it for customers and he does not do as clean a job or turn out as neat a package as the creamery. Attractive cubes of butter for table use can be cut from a print. This is hard to do from a roll or shapeless chunk.

The sale of butter in prints presents an unusual problem in weight control. No other food as wet as butter is packed into paper packages upon which net weight is stated, and which packages are distributed all over the United States. Other similar foods are packed in tins or in glass. A freshly made print of butter is so wet that it will wet the hand or a piece of paper. This water is an essential constituent and is a part of the weight of butter.

Any manipulation of butter after it has once hardened is some injury to the texture and flavor. The logical course is to make the prints as near the churn as possible.

The appearance of a print and its ability to hold weight are affected by the texture of the butter, and this is affected by the working. Butter with an open or spongy texture causes cavities in prints. These mar the appearance and cause irregular weight of prints. Another disadvantage of such texture is a great tendency to leak which causes loss of weight.

Water is an essential constituent of butter. Butter-fat without water is not butter of commerce, but is drawn butter, or as it is called today—"butter oil." The flavor of butter containing the proper amount of water is liked better than the flavor of drawn butter. Butter also has a different and more desirable texture than drawn butter. There is as much difference between butter and butter oil as between fresh apples and dried apples.

The texture of butter is made in the working of butter. The state or condition of water in butter is also determined in the working. There may be 14 per cent. water in the form of large drops causing the defect known as "leaky." There may be 18 per cent. water in very fine drops causing the defect known as "sticky" or "salvy." Such butter appears to contain little water but appearance is not an indication of water content.

If butter is to be sold in tubs or boxes, it should be made with the texture desired in tubs or boxes. If butter is to be printed, it should be made with the texture suitable for prints. To produce good texture for prints, avoid churning warm or washing with warm water. Have the churn running at sufficient speed. Thirty-two revolutions per minute gives good results for churns having an outside diameter around 53 inches. Fill the churn less than half full of cream. Have the cream cold enough so as it will take about 45 minutes to churn granules the size of wheat kernels. The size of granules is an important condition. The wash water temperature that gives good results with granules the size of wheat, will not give the same results with larger granules. Rinse off the excess of buttermilk with pailfuls of water, or with hose. This should be done without moving the churn. Revolving the churn without sufficient liquid therein to float the butter jams the butter together and gives different textures.

Wash water is a valuable facility for bringing butter to a desired hardness. For prints, the granules should be considerably firmer than for tubs. Wash water temperatures ranging from 45 degrees to 60 degrees are used for print butter in the middle west. The average temperature is 48 degrees to 54 degrees.

The butter should be well drained. If it is not well drained the loose water may wash out salt or increase moisture. Draining is quickened and made more uniform if the granules are worked in a small amount of wash water until well compacted together. This requires from seven to thirty working revolutions. The wash water is drained out through the doors clamped slightly ajar, and the butter worked with or without salt. The butter is worked until the droplets of water on a torn surface are smaller than pinheads, or until invisible. In other words, the butter is worked until it is dry. Low churning and wash water temperatures are necessary conditions for accomplishing this. All these suggestions will help but working butter so it will not leak and will not lose weight rapidly is an art learned only by long experience. Texture produced in this way is suitable for printing with a block type or wire cutting printer.

The texture of butter made this way is dry and unsatisfactory for a tub trade in the United States. It is, however, the most satisfactory texture for the print trade that can be made. Complaint about dryness from the consumers who buy such butter is almost unknown. But if print butter is made to suit the ideas of people who deal in tub butter, (and don't want print butter), there will be many complaints from the purchasers of prints because of stained wrappers or short weight. Every drop of water that was an essential constituent of butter that leaks out, reduces the weight that much. Everyone who has had experience with prints knows that even when the buttermaker has done his best, the weight inspector may find some of his prints short in weight. I wish to strongly emphasize that print texture should be made to avoid leakage and short weight, and not to suit the standards of tub trade.

Europe and Canada prefer a drier texture than our American tub trade. Some of the English blenders cannot use our butter because of its open texture. A movement toward a drier texture in the United States would be a benefit to the producer and consumer.

Print butter has to satisfy the same legal requirements for fat content and moisture content as tub butter. A definite and uniform salt content is equally desirable in every kind of package. Careful estimation of butterfat in each churning of cream is necessary to produce uniform salt and color from churning to churning. To approach uniform composition of prints from the same churning, have the churn level, the workers in line and in good order, drain out loose water, spread salt evenly from end to end, and work plenty.

In all cases, except the hand-block, the butter is hardened for cutting. This is usually accomplished overnight. The temperatures of refrigerators used for this purpose range from 25 to 40 degrees. If the wires in the cutter are long the butter cannot be too hard because it breaks the wires. If the cutter employs short wires it will cut harder butter without breaking the wires.

No wooden mold will automatically cut into prints of the same weight. The swelling of the wood changes the size and, therefore, the weight of the outside prints. Wooden molds are made a little larger than the volume of butter to be cut from them. The scraps resulting from the oversize are one of the drawbacks of this method. Proper construction of molds greatly reduces the amount of scraps. Metal molds do not have the disadvantage of changing shape, but their cost appears prohibitive. The lining of molds with parchment paper saves enough time and butter to cause the practice to be adopted by most creameries.

It is obvious that maintaining the wires tight and properly spaced increases the uniformity of prints.

Heavy parchment paper is too stiff and does not bend well and cling to prints. Thirty-pound paper is usually used for one-pound prints and there is a little 25-pound paper used for quarters.

The wrapping with parchment is usually done by hand. The use of machinery for putting on both parchment and carton is very promising.

Some creameries do not weigh every print. The majority of creameries, however, weigh every print.

A print scale should be sensitive to 1/32 of an ounce. In fact, some good scales are sensitive to 1/64 of an ounce.

The wrapping of prints in some manner is a necessity. The use of waxed paper and paraffined cartons also affords some protection against heat, evaporation of water, and absorption of odors.

Prints have a larger surface exposed to the injurious effect of air than bulk packages. The manipulation of bulk butter to convert it into retail form injures flavor to some extent. The prints probably do not have any disadvantages on this point.

A print loses moisture and weight with age. This loss is greatest during the first week and much less every succeeding week. It is only about one-fourth as great during the fourth week as during the first week. The average loss on forty well-made prints that I studied was a little more than two-thirds or one-sixteenth of an ounce in four weeks at 38 degrees. I have known leaky prints to lose around one ounce in two months. Greater loss of weight might occur. When a print loses water, it loses weight, but it does not lose food value.

If a print weighing sixteen ounces has 80 per cent fat, it contains 12.8 ounces of fat at all times. The loss of water by leaking and evaporation does not reduce the quantity of fat in the print.

In the operation of a large print room, inspection of print weights by a reliable employee is necessary to produce uniform weights. It is preferable that this weight inspector be someone else other than those engaged in making or weighing prints. A systematic record and file of these test weights should be kept.

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A Privately Owned "Apple Grader" in N.S.

Fitting and Showing of Beef Cattle

By J. A. Simpson, '26.

BREEDERS who attempt to show their stuff in just natural condition, or unfitted, never get far when competition is reasonably keen. And rightly so, for one of the chief purposes of the showing is to impress and educate the public. The breeder of beef cattle must demonstrate to the public the ability of his cattle to lay on flesh smoothly, evenly, and to an advanced degree. He has a perfect type in his mind and he should use every legitimate means to make his animal look like that model in order that the public may be impressed and a desire for good stock be created in the public mind. Down through the years, since the Collings Bros. exhibited the famous "White Heifer that Travelled," fitting and showing has come to be an art.

One of the biggest problems a breeder or his herdman has to solve when it is decided to fit a show herd is what to show. Keeping in mind that the object of showing is to advertise, there are several factors other than type, conformation and smoothness, to be considered in selecting the animals to be fitted:

(1) The value of the animal. There is a certain amount of risk in fitting and showing. Long periods of heavy fitting tend to reduce the usefulness and length of life of the animal. Hence it is not always wise to fit animals of greatest breeding value. If long prices have been paid for the animals, they are perhaps already advertised, and they would stand to lose more than they might gain by being shown.

(2) The breeding of the animals. The breeder will accomplish more by showing and winning with animals of his own blood lines.

(3) The age. Other things being equal, the animal showing the most scale and growth wins, hence it is to the showman's advantage to have his animals right up to the age limit. Senior calves dropped in September, and junior calves dropped in January, have an advantage over calves coming two to four months later.

(4) The disposition. Animals of irritable, excitable temperaments are much harder to feed and show, and do not stand the buffeting to which they are subjected on the show circuit as well as those of more docile dispositions.

The show herd selected, sufficient time must be allowed for getting them in prime condition for the show. The stronger the competition, the higher the fit required to win. It takes about a year to get a mature animal that is in only fair condition fitted to the point when he will make the strongest show. Every feeder and stockman has a few pet wrinkles which he regards as his stock-in-trade, and is usually reticent about passing them on. And if passed on these zealously guarded secrets frequently fail to work for another man.

Two principles are always uppermost in the mind of the successful feeder: (1) No two animals are exactly the same; they have different likes and dislikes, different rates of growth, and different fattening propensities; (2) The feeder must rely on his eye and be able to judge whether he is getting the desired results, or as the old adage runs, "The eye of the master fattens his cattle." In general, the show beast is fed much the same as the animal which is being fattened for commercial purposes, exceept that he is forced or "followed" a little harder. A heavier concentrate ration is fed. Less roughage is given, as too much roughage tend to an over-development of middle.

The concentrates are of course not as rich in mineral matter as the clovers and alfalfa, and frequently trouble is experienced by animals going off their feed or failing to develop sufficient bone when they are being heavily fitted unless steps have been taken to correct the mineral balance of the ration. Steamed bone meal is excellent for this purpose, and the way to feed it is to mix 2 parts of bone meal to 1 part salt and feed 3 times as much of the mixture as is usually fed of salt. Condiments and patent stock foods are seldom if ever used by good feeders.

Exercise, important to all animals, is doubly so to the animal that is being fitted for show. It increases the appetite, assists digestion, and keeps the animal on his feet. The animal should be exercised regularly and never violently. A good long walk, not too fast, is the ideal form of exercise. When Bedford Baggs was fitting Alberta Panama (champion Hereford bull in 1922 and 1923 at the Canadian Royal) for his first season as an aged bull, he walked him over a mile each day during the winter, regardless of the weather. Alberta Panama was undoubtedly the best fitted bull on the circuit. When leading a beast out for exercise he should not be allowed to slouch but made to carry himself erect with head well up. In this way his style, which is of great importance in the show ring, will be greatly improved.

The set or turn of the horn adds to or detracts from the character shown in a Shorthorn or Hereford herd. A calf's horns will not always develop naturally just as we would like them to, but it is a very simple matter to train the horn of the young animal to the desired shape. The horn of the Shorthorn and Hereford should come out straight from the poll, then turn down and forward, very slightly in the Hereford, a little more forward in the Shorthorn. If the calf's horns incline to grow upwards they can be very easily corrected by means of horn weights. There are several good types on the market, some of which are fastened on by straps, others by set screws. Large nuts screwed onto the horns work very nicely when nothing better is available. For horns that incline to go back too far, as well as turn up, there is nothing better than a small piece of old chain suspended loosely from the tips of the horns, allowing it to hang down about the eyes. A weight on a wire will also serve the same purpose. The big thing about training horns is to start in time and pull them very gradually. Do not use weights that are too heavy or leave them on too long. The rapid bending resulting from such practice gives a twisty, gnarled horn and heavy weights may put the calf off its feed. The proper time to start training horns is when they are about 2 inches long. At this time they are easily turned, and a very light weight will suffice.

At all times, the feet of the animals being fitted should be kept trimmed down to a neat size with the soles level. The hoofs of the animal on a fitting ration grow rapidly and he is not out enough to keep them worn down. Bad feet cause an animal to stand awkwardly and move clumsily and if neglected may cause a rawness or weakness of topline and crookedness of hock.

The show animal's education should commence as early as possible. It is important that he should lead well. It is a good plan to lead the young calves to and from the cows at nursing time. Before attempting to lead them outside, tie them up a few times for an hour or so in their own stall, until they learn that it is useless to pull against the halter. The cattleman should have the confidence of his animals. Kindness, patience and perseverance on the part of the showman are absolutely essential. All cattle like to be scratched, and there is no quicker way to gain the beast's confidence than by rubbing and scratching him under the chin, down his back, over his shoulder tops, or other places which he cannot lick or scratch for himself. When the calf is led out on the halter, move his feet about, gradually getting him standing squarely at attention. When moving him make him walk with head up and without swaying the body. If you intend using a cane or stick in the ring (and a cane is a great help in showing) use one while training so he will not be frightened of it. Study the weaknesses of your animal and how to overcome them. Keep a model type in mind and strive to make him pose as a replica of that model.

If the animal is to be shown smooth, and few beef animals have sufficient hair to curl for the summer and early fall shows, he should be given a good wash and blanketed with a very light blanket for 2 or 3 weeks previous to the show. Do not make him uncomfortable by using a heavy cover. This keeps off flies, preventing a fly-bitten skin, smooths the hair down and softens the hair and hide. The animal should be groomed daily, using a soft brush. Brush vigorously with the grains of the hair, using the comb to clean the brush. If he is to be shown rough or curled, it is not well to attempt to do too much with the hair. Too much curling and brushing up tend to break the hair and deaden it. Curling or brushing up once a day for five days or a week will usually give better results than curling for a longer period. The growth of the hair can be increased by leaving the animals out in the pasture during the cool autumn nights, and also by dampening the hair in the morning with cold soft water.

The tail from 2 to 6 inches above the switch should be clipped so as to show the filling of the twist and thighs. How far up or how low down you go with the clippers, depends entirely on your animal. A high tail head should be closely clipped while a droopy rump looks better if the tail head is not clipped. Angus cattle are usually shown with their heads clipped.

A few hours or the day before showing the animal should be washed again. The first washing usually loosens a lot of scurf or dandruff which works up into the hair and a second wash is required to take it out. Use a good quality of soap, such as castile or tar soap, or best of all linseed soap. Best results can be obtained by using warm water. It gives a quicker lather with less work. Do the job as quickly as you can without sacrificing thoroughness. Work the soap through the hair with the hand or brush or both until a good lather is obtained. Excessive soaping and washing takes out the natural oil of the hair leaving it dry and hard as well as leaving the skin thick and hard. After a good lather has been worked up rinse it off with clean water and proceed to the other side. The head and switch are washed last. Rinse again and scrape off the surplus water with a curved stick, or the back of a Scotch cattle comb. In rinsing do not shoot a lot of cold water out of a hose under high pressure. It tends to thicken and harden the skin besides chilling the animal unnecessarily. When the surplus water is scraped off, the animal should be led to a well bedded stall and covered with a heavy woollen blanket. If you are showing him smooth allow the blanket to remain on until the skin is soft and pliable. If he is to be shown curled, the blanket can be left on only a few minutes. If he is in a nice warm place where he will dry quickly better not blanket at all.

In starting to curl, part the hair straight down his back, and smoothen down each side with brush and comb. Using a Scotch comb as a streaker, streak from rear to front, drawing your lines as nearly straight and parallel as possible. The distance you put the first line from the part in the centre of the back, depends on the conformation and smoothness of the animal. Nothing is to be gained by entirely covering up a smooth, strong top. On the other hand an uneven top can be covered up by curling right in to the centre. The width between streaks depends on the length of the hair. When the hair is short and fine the streaks must be closer together than on a long-haired beast. After streaking, allow to stand for a few minutes until the tips of the hair start to curl up, where the streaks were made. Then taking a stiff dry brush preferably a corn brush, brush the hair up, starting at the neck and working back, pressing fairly heavy, and with a rolling motion. Keep lightly brushing the hair up as it dries.

The hair should be dry and fluffy when the animal goes into the ring. To give additional gloss and bloom to the coat, dampen a piece of clean dry cheesecloth with a mixture of equal parts bay rum and sweet oil (or 1 part alcohol to 2 parts sweet oil) and lightly rub the hair up following with light brushings. The hair should be smoothed out over the shoulder tops and patted down over hocks and shoulder blades that are a little prominent.

The horns should be nicely polished or oiled for the ring. First remove all deep scars, rings and uneven surfaces with a coarse rasp. Smoothen with a finer rasp; then scrape lengthwise of the horn with a wood scraper or broken glass; and finish with fine emery cloth and steel wool. This should give a smooth, clean surface ready for polishing or oiling. A little sweet oil gives a fair gloss, but if a high polish is desired use Tripoli powder moistened with enough sweet oil to make a smooth paste. If this is not at hand floor wax, or even light tan shoe polish gives very good results. Polish with a clean woollen cloth.

Any animal looks best when he is full and a nice "fill" is a big help in the show ring. On show day feed very lightly in the morning, perhaps just a little choice hay, if he is to be shown early, so that his appetite will be keen for feeding before showing. A heavy meal tends to make the animal sluggish, so the feed given should be light and bulky. About an hour before he enters the ring, give him a good feed of pulped roots (or soaked beet pulp flavored with molasses), bran and crushed oats. Make more palatable by adding a little molasses or brown sugar if roots are used. Add salt to taste and mix well together. Watch him as he takes the feed and take care that he does not get too full. Allow water to drink before and after feeding, and a little choice hay is usually relished after the feed of roots and meal.

With your beast nicely fitted—his feet in good shape, horns polished, switch brushed out, coat clean and glossy—nicely curled if shown rough and smooth and glistening if shown smooth—and a nice fill on him, you are ready to enter the ring. See also that you yourself are ready for the ring. Be clean, tidy and appropriately dressed for the job. Many a well fitted animal has lost because it has been poorly shown. First of all the best showman is invariably quiet-spoken, calm, and able at all times to hold his temper. Enter the ring resolved to win if possible, but to take your defeat, if it comes, in a good sporting spirit. All good judges make the odd mistake and cattlemen always appreciate a good loser.

Never cease showing your beast from the time you enter the ring until you leave. First impressions are lasting, and a judge frequently selects a winner, or a loser, as he enters the ring. Again a winner may lose the judge's favour and all chance of a championship if allowed to slouch when leaving the ring. Watch your beast and the judge at all times.

There are many little tricks used in covering up weaknesses. A long neck is made less obvious by holding the head fairly high with the face turned to the judge. A weak heart becomes less prominent when the forefoot nearest the judge is placed back a little. Keeping the animal moving almost continually serves to strengthen a weak top. A droopy rump can be made more level by pinching down the loin, and so on, The showman must experiment on each animal he shows, always looking for ways and means of dressing and handling his animals, so as to accentuate their good qualities and make their faults less glaring.

Fitting any kind of livestock is intensely interesting. Showing is exciting and appeals to a man's sporting nature more perhaps than any business that the agriculturist can engage in. Good live stock is a delight and a pleasure to any lover of animals, but the greatest pleasure is derived from taking these animals, and by the art of fitting and showing, bringing them close to your own ideal of the perfect type.

Winter Wheat Experiments

By W. J. Squirrell

Of the thirty-six varieties of winter wheat under test at the Ontario Agricultural College in each of the past seven years the seven kinds which gave the highest average yields per acre were produced at the College by hypridization and by selection. Four of these are hybrids which have not as yet been introduced into general cultivation throughout the Province.

The most important winter wheats in cultivation in Ontario at the present time are the O.A.C. No. 104, the Dawson's Golden Chaff (O.A.C. 61) of the white wheats, and the Imperial Amber (O.A.C. 92) of the red wheats. The first was originated by cross fertilization and the other two by individual plant selection.

The following gives the average bushels per acre per annum for each of five varieties of winter wheat grown in the co-operative experiments throughout Ontario in eight years: O.A.C. No. 104, 28.2; Dawson's Golden Chaff (O.A.C. 61) 27.1; Imperial Amber (O.A.C. 92) 26.1; Kharkov, 24.4; Yaroslaf, 22.3. The latter two are red wheats which have been under test at the College for at least seventeen years.

College experiments have shown the great importance of sowing not only the best varieties, but also seed which is: 1, large; 2, plump; 3, well matured; 4, unbroken; and 5, unsprouted.

Any Ontario farmer may apply for the material for any one of the following experiments. (1) Three choice varieties of Winter Wheat; (2) One variety of Winter Rye and one of Winter Wheat; (3) Spring applications of five Fertilizers with Winter Wheat; (4) Autumn and Spring applications of Nitrate of Soda and Common Salt with Winter Wheat; (5) Winter Emmer and Winter Barley; (6) Hairy Vetches and Winter Rye as fodder crops; (7) Mixtures of Winter Rye and Hairy Vetches for seed production; (8) Testing O.A.C. No. 104 Winter Wheat at three dates of seeding; (9) Testing Dawson's Golden Chaff (O.A.C. 61) Winter Wheat at three dates of seeding.

The size of each plot is to be one rod wide by two rods long. Fertilizers will be sent by express for Experiment Number 4 this Autumn, and for Experiment Number 3 next Spring. All seed will be sent by mail except that for Number 4 which will accompany the fertilizers. The material will be sent out in the order in which the applications are received and as long as the supply lasts.

Those wishing for experimental material should apply to Dr. C. A. Zavitz, Agricultural College, Guelph, Ontario.

August 23rd, 1926.

Autumn Sown Crops--Results of Experiments, 1926

By Dr. C. A. Zavitz

IN some parts of Ontario the weather conditions of the past winter and early spring were rather severe on autumn sown crops. At the Ontario Agricultural College, however, all the hardy varieties of winter wheat came through well. In each of the months of April, May, June and July the temperature has been below normal. In June the rainfall was above average, but in each of the other three months it was below the average of the past twenty-seven years.

In the past year experiments have been conducted at the College as usual with Winter Wheat, Winter Rye, Winter Barley and Hairy Vetches. There has been no injury caused by the hessian fly and practically none from rust or from smut. Only a few of the summary results of experiments conducted at the College and of the co-operative experiments over Ontario are presented in this brief report.

1. For at least five years upwards of three hundred varieties of winter wheat and many selections and crosses have been tested at the Ontario Agricultural College.

2. In the past thirty-one years fourteen varieties of winter wheat have been under test at the College continuously. It is interesting to note that of the whole thirty-one years the results of 1926 come first in yield of grain per acre, second in yield of straw per acre, and eighteenth in weight of grain per measured bushel. The detailed results of this experiment show that winter wheat can be grown on the same farm for at least thirty-one years without lowering the production even though no fresh seed in introduced from any outside source or no plant selection practised.

3. The following gives the average yield in bushels of grain per acre per annum for each of the fourteen varieties tested for the thirty-one years:—Dawson's Golden Chaff, 50.8; Imperial Amber, 49.4; Early Red Clawson, 47.2; Early Genesee Giant and Egyptian Amber each 46.9; Rudy, 46.1; Tasmania Red, 46.0; Tuscan Island, 45.6; McPherson, 45.0; Turkey Red, 44.9; Kentucky Giant, 44.7; Geneva, 44.2; Bulgarian, 43.8; and Treadwell, 41.7.

4. It is interesting to note that of the thirty-six varieties of winter wheat under test in each of the past seven years the seven kinds which gave the highest average yields per acre were produced at our College by cross-fertilization and by selection. Four of these are hybrids which have not as yet been introduced into general cultivation throughout the Province. The average yields per acre per annum for the seven-year period for the three varieties which have been introduced are as follows: Dawson's Golden Chaff (O.A.C. 61), 62.3; O.A.C. No. 104, 61.3; Imperial Amber (O.A.C. 92), 57.8. The Dawson's Golden Chaff (O.A.C. 61) has given the highest average yield of grain per acre of the twenty-four varieties of winter wheat grown un-

der test at the College for the past sixteen years. This special strain was started from a single plant selected from the Dawson's Golden Chaff variety and it has surpassed the latter in yield of grain per acre in fourteen out of the last sixteen years, the average increase for the whole period being 4.19 per acre per annum.

5. The Dawson's Golden Chaff (O.A.C. 61) is an exceptionally high yielding strain of the Dawson's Golden Chaff which has been the leading variety of winter wheat in Ontario for many years. It is classed as a wheat with red chaff, beardless head and white grain. The straw is exceptionally stiff and the grain is particularly well suited for pastry, breakfast foods, including shredded wheat, and the flour is used in blends for bread production.

6. The O.A.C. No. 104 is a cross produced at the College between the Dawson's Golden Chaff and the Bulgarian. It is a white wheat with a white chaff similar to the Bulgarian and has a beardless head similar to Dawson's Golden Chaff. It is a vigorous grower and has been more hardy even than the Dawson's Golden Chaff but is not quite as stiff in the straw.

7. In each of eighteen years, the varieties of winter wheat grown under experiment in the Field Husbandry Department were carefully tested for bread production in the Bakery Branch of the Chemical Department at the College. Those varieties of winter wheat which produced the largest loaves of bread from equal quantities of flour in the average tests made throughout the whole period are given in the following order:—Yaroslaf, Buda Pesth, Banatka, Tasmania Red, Crimean Red, Tuscan Island, Egyptian Amber, Treadwell, Kentucky Giant, Turkey Red and those which produced the smallest loaves were Abundance and Early Red Clawson.

8. Results of experiments at the College show that for the best returns it is important to sow seed wheat which is—(1) Large, (2) Plump, (3) Well Matured, (4) Unbroken, and (5) Unsprouted.

9. In the average of twelve years' experiments, wheat sown at the College from the 26th of August to the 9th of September has been more productive than that which was sown at later dates.

10. Winter wheat sown on summer fallow, or after clovers or alfalfa, gave better results than that sown after timothy, buckwheat, etc.

11. The following gives the average bushels per acre per annum for each of the five varieties of winter wheat grown in the co-operative experiments throughout Ontario in eight years:—O.A.C. No. 104, 28.2; Dawson's Golden Chaff (O.A.C. 61) 27.1; Imperial Amber (O.A.C. 92) 26.1; Kharkov, 24.4; Yaroslaf, 22.3. The Kharkov is a red bearded wheat with white chaff and the Yaroslaf a red bearded wheat with red chaff. The former has been under test at the College for seventeen years and the latter for twenty-four years.

12. In five out of the nine years the New Invincible surpassed each of the four other varieties of winter rys, including Rosen.

13. In average yield of grain per acre per annum in the experiments conducted at the College, winter barley gave 2,328 pounds in twenty-nine

(Continued on page 34)

Letters of a Wealthy Scotch Landlord to His City Tenant

By L. E. G., '24

Summary

THE wealthy Glengarry Scotch bachelor, plasterer by trade, has experienced the three great financial failures, the disappointment in love, and is now ready to be crowned with success, as foretold by his fortune teller. Our worthy landlord has been tossed about in Western Canada, Northern Ontario, and is now in the whirl and tumultuous atmosphere of the great automobile city of the world. He continues to toil and save and marvels at the magnitude of industry in the City of Detroit.

Letter No. 3

Detroit, Dec th15 1925.

Mr. Wilmore

My Dear frend as I hav been thinking off you I thout I wood hav a little chat off this kind with you, Well how is everithing and everibodie fine and dandie I hoep, Wee ar having splendit weether Down hear there surtintile his som chang in the climet between hear and Ottawa and also a wonderfull chang in the bisnus lins there seems to bee a great deemand hear for most everithing and all lins off work In this sittie & as for manfactering there seems to bee no end to It and you shood see all the large factories that is being bilt hear at the presant time and as for hoam bilding It is wonderfull and a grait many of them ar real hoams bilt for the willthie peeple and the bilding operation Is carreed on the year round, I am bissie to work everiday just had too hollidies labor day and thanksgiving since I started work but I expect to take a week off during the hollidies, there is several young men from my oald hoam over hear and It makes things quit plesent to see them on i off them is working for the saim furm as I am working for, Well now this year Is draging close to an end I would like to hav you send mee the reeseets for the monnie you paid out also a cheek for the ballens and then wee will bee squared away for this year, My adress Is 17361 E Jefferson groospoint Detroit, give my best Wishes to Mrs Wilmore for a merrie & plesant Xmis & plees exept the saim you self

best regard

yours truly

J. A. McMahon

Autumn Sown Crops

(Continued from page 33)

years and winter emmer 2,323 pounds in eighteen years.

14. Winter rye has surpassed winter wheat in yield of grain per acre in the co-operative experiments throughout Ontario in nine out of ten years.

"An Old Scottish Kirk"

By J. E. Blaney, '27

LAST summer I spent my holidays wandering through Scotland, and in my wanderings I arrived one Saturday night at a little village, about six miles from where I was born. I decided that on the morrow I would visit my old home. After my evening's pipe, I rolled into bed, leaving orders for the innkeeper to call me early, because I wished to be up and away by sunrise.

It was still dark and somewhat chilly when I arose Sunday morning. However, after a good breakfast of real Scotch porridge, real cream, toast, a rasher or two of bacon, and coffee, I felt fine and set out quite happy. Everything was still at that hour. Not a sound was to be heard save the faint whisperings of the morning breezes as they stirred the sleepy leaves on the bushes along the roadside. The road gradually became steeper until at about a mile from the inn I found myself at the top of a high hill. What a sight! Away in front of me stretched the road, a long thread of white, winding through the hills and finally losing itself in the purple haze of distant mountains. "What a wonderful spot to see the sunrise from," I exclaimed, and turning as I spoke I saw the first pinky-tinge colour the sky in the east.. Slowly at first, and then gradually more rapidly the colour deepened and spread until finally the sky was flaming rose, with great streams of flame shooting out from the horizon. Down below lay the silent little village still fast asleep, beneath its blanket of shadow. Then suddenly, oh, so suddenly, it seemed, the sky cleared, the colour vanished, the sun was shining brightly, and—morning had come. What a wonderful picture that had been—one which only the hand of nature could paint. I turned and walked on, still musing on the beauties and wonder miracles of nature. How different the road seemed now. No longer was everything still. Birds sang in the thickets and flew from bush to bush, dashes of living color. The world was bright and clean that Sunday morning, and it seemed to express to me the joys of living.

Quickly time and distance passed, and almost before I knew it I was at the home of my early childhood. But what a disappointment. The old farm house, with its red tile roof lay in ruins. Time had not been kind to my old home. The house seemed desolate and forlorn. I did not stay long for the scene depressed me, and I wished to remember it as I had left it. I turned back to the road and walked on, wondering if the old kirk would be just as forsaken and lonely. But no! When I arrived I found that here Time had indeed been kind, and although the roof had fallen in yet the walls were standing, and it was still a place of beauty. A faint path led into the churchyard through an arbour-like gate of wild rambler roses. The magnificent and variegated colours of the flowers stood out in sharp contrast against the dark green of the foliage. The grass-in the yard, although long, was not of a rank growth, but rather reminded one of a thicket of dark green plush. I walked across this natural carpet to the door and tried it. To my surprise it swung open easily and quietly. I went in. There were the same old benches still standing on the earthen floor. Some one had cleared away the debris from the fallen roof so that the interior was just as inviting as the outside. I was tired after my long walk, so I sat down on one of the benches. I fell asleep, and as I slept I dreamt that I was back again in my old home. It was Sunday morning and I was in church with my father and mother. Once again I met the people I had known when a child. There was old Mr. McPherson, or as we had called him, "Old MacFierceson," and his son, "Wee Donnie," although he was well over six feet. Now and then another one that I knew would come in. Gradually the church filled, and at last came the choir and the minister. Well do I remember that Sunday service, particularly the sermon, a long, drawn out, seemingly endless one. I saw myself fall asleep, as I well remembered doing, only to be shaken back to consciousness by my mother. I fell asleep just before the last hymn, and my mother had some difficulty in wakening me. In fact she shook me out of my dream and I really awoke to find myself standing up and singing lustily that last hymn. I stopped and looked around me, relieved to find no one in the church. My dream had been so real that just for the moment I thought the congregation, choir and minister really were present.

I looked at my watch, and finding that it was getting on toward the afternoon, I set out for my little inn. That was the last service I ever attended in the Old Kirk, and although it was only a dream I will remember it as long as I live.

* * *

Poetry awakens and enlarges the mind itself by rendering it the receptacle of a thousand unapprehended combinations of thought. Poetry lifts the veil from the hidden world, and makes familiar objects be as if they were not familiar.—Shelley.

* * *

Yet in opinions look not always back;
Your wake is nothing; mind the coming track,
Leave what you have done for what you have to do,
Don't be "consistent," but simply be true.

—Oliver Wendell Holmes.

Hugh Walpole

By J. Marshall, '25

ALTHOUGH the name may be strange to some of us, it is that of one of the foremost of present day novelists. Hugh Walpole has advanced to success with comparative celerity, as his first book published in 1908 was only separated by a space of ten years from the appearance of his most popular novels. When only thirty-seven years of age his works were published in a collected edition by a London firm. Probably he is the youngest man ever to receive this distinction, a true mark of eminence in the literary world. For two years in succession with "The Captives," and "The Secret City," he was awarded the Tait-Black prize by the University of Edinburgh for the best novel of the year.

Walpole is a typical Englishman, (the athletic, widely travelled, cold-bath type). He was born at Auckland, New Zealand, in 1884, the son of a Vicar of that city, and after successive journeys to New York and Edinburgh, where his father is now bishop, he finally became a student at Emmanuel College, Cambridge. Subsequent to his graduation he hastily passed through the lean years which are the lot of many a novelist. First he reviewed books for a London journal, then he himself published his first book, which was received with fair success. From this time until the war his books were marked by increasing popularity. On the outbreak of war he was attached to the Russian Red Cross, whence came the observations which led to the writing of "The Dark Forest," one of the best and sombrest of his books. Later his experiences as British propagandist in Petrograd resulted in "The Secret City," which is said by authorities to be the truest novel of Russian life ever written by an alien.

Walpole's versatility is shown by his excellent children's stories, "The Golden Scarecrow," and "Jeremy," and by his stories of lower, middle and upper classes of English society. "The Green Mirror," is a wholesome story of English family life. He has said that he never draws his characters from living models, but admits that living persons have suggested themes and characteristics. The methods of Anthony Trollope are those followed by Walpole, but while the characteristic easy-going Trollope style and close observations are evident in his works, there is also a conciseness and finish in the writing and construction which are lacking in those of the master.

Most of Walpole's work is done at his cottage in Cornwall, whence he retires when in the mood for writing. On the completion of a story he goes to London for recreation. He is well known in social circles there as one of the most popular and cleverest afterdinner speakers in the city. It might be added that he is likewise one of the best known and most admired of English author-lecturers in America.

THE O.A.C. REVIEW

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G. B. HOOD, B.S.A., Alumni Corresponding Editor,
H. J. COLSON, '29, Athletics.
A. A. KINGSCOTE, O.V.C., Art.
R. W. THOMPSON, '28, Locals.
MISS F. PARSONS, Mac. Rep.

EDITORIAL:

Year '30, We Welcome You

TO you, who for the first time are wandering around this campus, the Review extends a most hearty welcome. You are part of the small percentage of Canadian young men who are granted the privilege of a college education. May you at this, the beginning of your preparation for the broader life, resolve that you are going to get the most and best that your College has to offer you, so that at the end of your college course, you may look back over the accomplishments of the past 2 or 4 years with pride and satisfaction. You cannot all have the pleasure of topping your year, of being a member of the college debating team, or of making a place on the championship rugby team, but every single one of you can have the satisfaction of knowing that you have done your best, that you have played the game under all circumstances, and have exhibited that spirit of sportsmanship, of which the O.A.C. is so proud.

At this time, we should like to suggest that you, one and all, subscribe to your College Magazine. It is a strictly student publication, and needs your support, both as individuals and as a year. In the course of a few evenings, a member of the Review Staff or of the Co-op. Executive, will call upon you for your subscriptions. Will you not give him a hearty response, and thus enlist yourselves in support of a worthy college activity.

Suggestions

IT has been claimed, and with some degree of justification too, that all students at the O.A.C. pay a rather heavy athletic fee, but that only a few derive any benefit from it. That this is largely the fault of the individual student, we will admit, but at the same time, we ask: "What would happen if 50 men were turning out daily for Rugby and Basketball." Is it not true that the major sports are, comparatively speaking, only for the favored few. You may argue that there is the gym, the swimming tank, the tennis courts (?), etc., for the others, but this simply introduces our contention, that we need more and better tennis courts.

For years past, we have been faced with the lack of suitable tennis courts at the O.A.C. It is true we have three courts on the Mac. campus, but these are inadequate both as regards quantity and quality. They are only poor grass courts at their best, and far from meet the needs of a college, which is taking such a prominent part in other branches of athletics. We need at least three good clay tennis courts, and we would suggest that the Athletic Association look into this matter carefully and see if something cannot be done. The cost of such an undertaking need not be so very great, as most of the labor, apart from team work, could be done voluntarily by the students.

In addition we contend that the Athletic Association should give a little more active supervision to the minor branches of sport. Unfortunately volleyball was discontinued last fall, and yet here is a game, which, contrary to popular opinion, with good players will provide plenty of exercise for those participating. It is also a game in which you do not have to be very proficient in order to have a good time. We hope that the Inter-year games will be resumed this fall, and in addition, we would like to see a little added excitement by Table 4 in the dining hall challenging Table 10 to a series of three or five games, etc., etc.

Soft-ball is another game which might be popularized to a much greater extent than it is at the present time. In this connection why can we not have a five-team league, composed of the Faculty and the four Year teams, and a schedule drawn up so that any one team will meet each of the others in at least three separate games. Then to provide a little excitement to the league race, the Athletic Association might donate chicken suppers to the members of the winning team.

We do not wish these suggestions to be considered as criticisms of the programme of the Athletic Association. This is far from our true purpose, as we fully realize that after all, the success of these college sports depends almost entirely upon the students themselves. The Athletic Association can take the lead, but from there on, it is up to you, as students and as Years. In this connection it might be wise to remember that a very great deal depends upon the men you select as Year Managers in the various branches of sport. In the past it would seem that Year Executives have been prone to deny their careful consideration to the election of these managers, but instead, have elected these men in a more or less haphazard manner. As long as this situation remains, we can hope for little real activity in the minor branches of sport.

We all remember with pride the notable successes of our debating teams last spring. If we are to improve or even maintain our present standing in debating circles, it would seem that now is the time to commence our preparations. There should be some system evolved at the O.A.C. with the definite aim of developing debaters. At the present time, students receive all too little practice in debating. Our public speaking classes are doing all within their power in this direction, but we must have something more.

We do not suggest a remedy for this state of affairs—in fact, we cannot. Instead we desire to instil in the minds of all the necessity for some debating organization. If this is done, we feel confident that the required suggestion will be forthcoming.

Are you at present a subscriber to the Review? If not, then start the year right by dropping in at the Co-op., and entering your name on our subscription lists. It will be a dollar well spent. If you are already a subscriber, bring along your room-mate. We want his dollar too, but above all, we want his active co-operation, and we cannot hope to have the active co-operation of our non-subscribers.

Has the payment of your Entrance Fees made quite a hole in your summer's savings? Would you not like to find an easy means of mending this hole? To those who obtain advertising material for our columns, we are offering a handsome commission. It is a good proposition. For full particulars drop in at the Co-op.

College Comment

They Merit Consideration

The Varsity (Toronto): Among the novel developments of the twentieth century is the self-supporting university undergraduate. In American colleges his type predominates in the student body, while in Canada the class is steadily growing, although it has not yet gained such a secure foothold. The latter situation probably arises from the fact that Canadian universities are considerably more conservative. Although they do not hinder the student who is less fortunate financially from entering college, yet they make little, if any, attempt to aid him after he has enrolled. Condemning his practice of earning the wherewithal for his education while receiving it, they have been known to advise that he accumulate the required sum first and pursue his career afterwards. Although statistics show that the former plan has been more practical, the faculties of Canadian universities fail to admit it in practice. Little do they realize that the great length of time consumed in adopting their suggestion would probably take away all the student's desire for higher culture.

Seeming almost as if they would enforce their advice, they scatter lecture hours at random through the week, carefully breaking up each day, compelling the self-supporting student to confine his activities in the foraging for finances to the holidays alone. We have already pointed out in this column the virtues of the intensive time-table as enforced by a number of American universities, but as far as is known no consideration has been given to this possible means of encouraging the impecunious student.

If the faculties do not wish to change their ideas of smoothly-working time-tables, there may yet remain an opportunity to aid these people, in the way of scholarships. It needs only a cursory glance through our own university calendar to demonstrate what is probably a common fault among all Canadian universities; namely, that the system of awarding scholarships is, to say the least, old-fashioned. The prizes and fellowships offered are both numerous and valuable, but a large proportion of them either have such unusual conditions attached, or are granted in such unpopular subjects that they go yearly unawarded, answering no purpose except the accumulation of interest upon their endowment.

We are aware, of course, that in nearly every case the conditions of scholarships are stipulated by their founders, leaving the university powerless to alter them later. It might, however, be possible for the faculties of universities to co-operate more closely with their benefactors and to see that scholarships are offered in the departments where they will arouse the most popular competition.

One fact is indeed certain; that is, that the self-supporting students merit consideration of a special nature, for they form and direct, for the most part, the real mind and soul of the university.

* * *

Talk about those subjects you have had long in your mind, and listen to what others say about subjects you have studied but recently. Knowledge and timber shouldn't be much used till they are seasoned.—Oliver Wendell Holmes.

◆

He that studieth revenge keepeth his own wounds green.—Bacon.

ATHLETICS

RUGBY

Art Wilson and Tommy Thompson are very anxious to scramble the Western egg again this year and are even so ambitious as to hope to be able to serve the Intermediate Intercollegiate bacon along with it. As a result Frank Morwick assembled the team a few days earlier than usual and that few days' conditioning may go a long way towards winning games.

Prospects do indeed look bright for not only are many of last year's men back, but the second team and the freshmen year have men who will make them all step for jobs.

Among those who look like "sure things" are.—

"TOMMY" THOMPSON, the speediest man on College Heights, and captain of the team, will, in all probability, be at centre half. George is kicking them high and far already and will be able to hold his own and then some with the best in the circuit.

While there were some fears last spring that ART WILSON'S operation might keep him on the sidelines this fall, Art has fooled them and will be back at flying wing again. It was his coaching that was a big factor in our success last fall, and he expects to do even better this year. As far as his playing ability — well, everybody knows how good that is!

"BAM" BAMFORTH is without his old sidekick, Jim Wharry, but it apparently doesn't effect him very much, for he is stepping the half mile around the field as lively as ever.

ART. DONALD, who has had a crack at most every position since he came to the College, will likely be back in the line where he showed up so well last year.

CLARK HODGINS, whose ability was not fully appreciated last year, until the season was nearly over, will of course be in the line, and if he goes anything like he did in Sarnia last November—we'd rather play on his side please!

"SILKY" SILCOX, last year's captain, is slated for left half, and when we say he is our idea of just what a secondary defence man should be, we don't mean maybe.

DICK GRAHAM, who last year was general utility man, and a good one, has decided to quit the roaming life and settle down at quarter back. It looks as if he'd get it too.

"GRIFF" GRIFFITHS, the midget wonder, will be in prominence again, but he is going to try a new job—snap, where his defensive strength will be most felt.

GEO. HART has his eyes on a

line position. He showed great form last year and knows how to hit low and hard.

BOB THOMPSON, of soccer fame, is going to take a crack at rugby, and will be probably used as utility half and outside. In the English rugger game here 2 years ago he showed great tackling ability and he has speed to burn.

HALL and McKENDRICK, of last year's second team, have the difficult task of filling "Shike" Lewis' and "Rich" Richardson's shoes. They are both hard tacklers, and have plenty of speed. As for experience, Hall played with the Varsity Junior Intercollegiate Champs of 1924, while McKendrick was one of the U.T.S. stalwarts the same year. If they come up to expectations they will be among the best in the league.

There are also several other last year's second team men turning out regularly, and there are some of them who show every indication of coming through.

DAN DEMPSY, who turned out with the team a couple of years back, but was injured and had to quit, is out at it again, and is all set to show them how to gain yards.

The freshman class has brought in many prospects, and nearly half the year has started out to take a crack at it. Among them are: Sutherland, a big husky with little experience, but plenty of ability; Biggs, from Dundas juniors; Batzold, from Hamilton Tech.; Mader, from Balmy Beach; Hull, Hewer, Walker and Squirrell, from Guelph Collegiate.

Plans at time of writing are still a bit indefinite, but conditioning is to play a big part in the training this year. It is also planned to have first team vs. second team games every Wednesday and Saturday until the league season opens.

As usual the old boys game will start the fireworks for the season. It is slated for October 2nd.

* * *

If there is anything more ridiculous than the attempt of a boisterous and breezy person to play the part of the strong, silent man it is afforded by the spectacle of someone who is by nature intended to be of the quiet type apeing the breezy heartiness of the jovial fellow.—The Rev. H. R. I. Sheppard, in the St. Martin's Review.

* * *

If you intend to go to work, there is no place better than where you are. If you do not intend to go to work, you cannot get goal anywhere.—Abraham Lincoln.

ALUMNI

HEMBER-BAILEY NUPTIALS

A pretty wedding was solemnized on Saturday afternoon, August 28th, at St. George's Anglican Church, Guelph, when Dorothy Ellen, youngest daughter of Mrs. Mary E. Bailey and the late Robert Bailey, became the bride of Aubrey Desmond Hember, B.S.A., son of Mr. and Mrs. A. J. Hember, of Toronto. The ceremony was conducted by the Ven. Archdeacon G. F. Scovil. The bride, who was given in marriage by her brother, Harry William, was becomingly attired in rose georgette with black picture hat and shoes to match, and carried a bouquet of sunburst roses. The bridesmaid, Miss Alice Bailey, sister of the bride, was charming in a gown of blonde geogette, and carrying a bouquet of butterfly roses. The groom was attended by his cousin, Mr. Allen Hember, and the ushers were Mr. Leonard Bryant and Mr. Fred Hamilton. During the signing of the register, Miss Nellie Barclay sang "All Joy to Thee." The reception was held at the home of the bride's mother, Forbes Avenue. The bride's travelling costume was a green knitted suit with hat to match. After a brief wedding trip Mr. and Mrs. Hember will reside in Gananoque.

Major Harris, '25, Provincial Motorcycle Officer, who has been patrolling the Owen Sound and Kincardine highway, has received a transfer, and is now working on the Guelph-Hamilton highway. "Bill" often visits the O.A.C. now.

Way-Yost—On Wednesday, the 13th of June, Miss Myrtle Grace Yost, daughter of Mr. and Mrs. Geo. H. Yost, to Mr. James Tan Way, '20. The marriage service was conducted by Dr. T. M. Hargett, pastor of the Methodist Temple, Kansas City, where the wedding took place. After a few days motor trip in Southern Missouri, they returned to Springfield, where he resumed his duties as Creamery Superintendent of Armour's Creamery.

Particulars of the recent marriage of "Shorty" Kirstine will be published in next month's Review.

Col. A. M. Jarvis, C.M.G., C.B.E., recently visited the College. Col. Jarvis entered the college in 1875, taking one year. After leaving the College he was for 31 years with the Royal Northwest Mounted Police. He went overseas in 1914. His name is the first on the list in the Book of Remembrance in the Memorial Hall.

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OGDEN'S LIVERPOOL

Alice had learned the story of Columbus at school, and was telling it to her mother..

"An' his ships were named the Nina, the Pinta, and—and——"

"Santa Maria," prompted her mother.

"Yes, and the queen's name was—was—"

"Isabella," suggested the mother.

"Mother," demanded Alice, with sudden suspicion, "have you ever heard this story before?"

—Western Christian Advocate.

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Chilean Nitrate Committee

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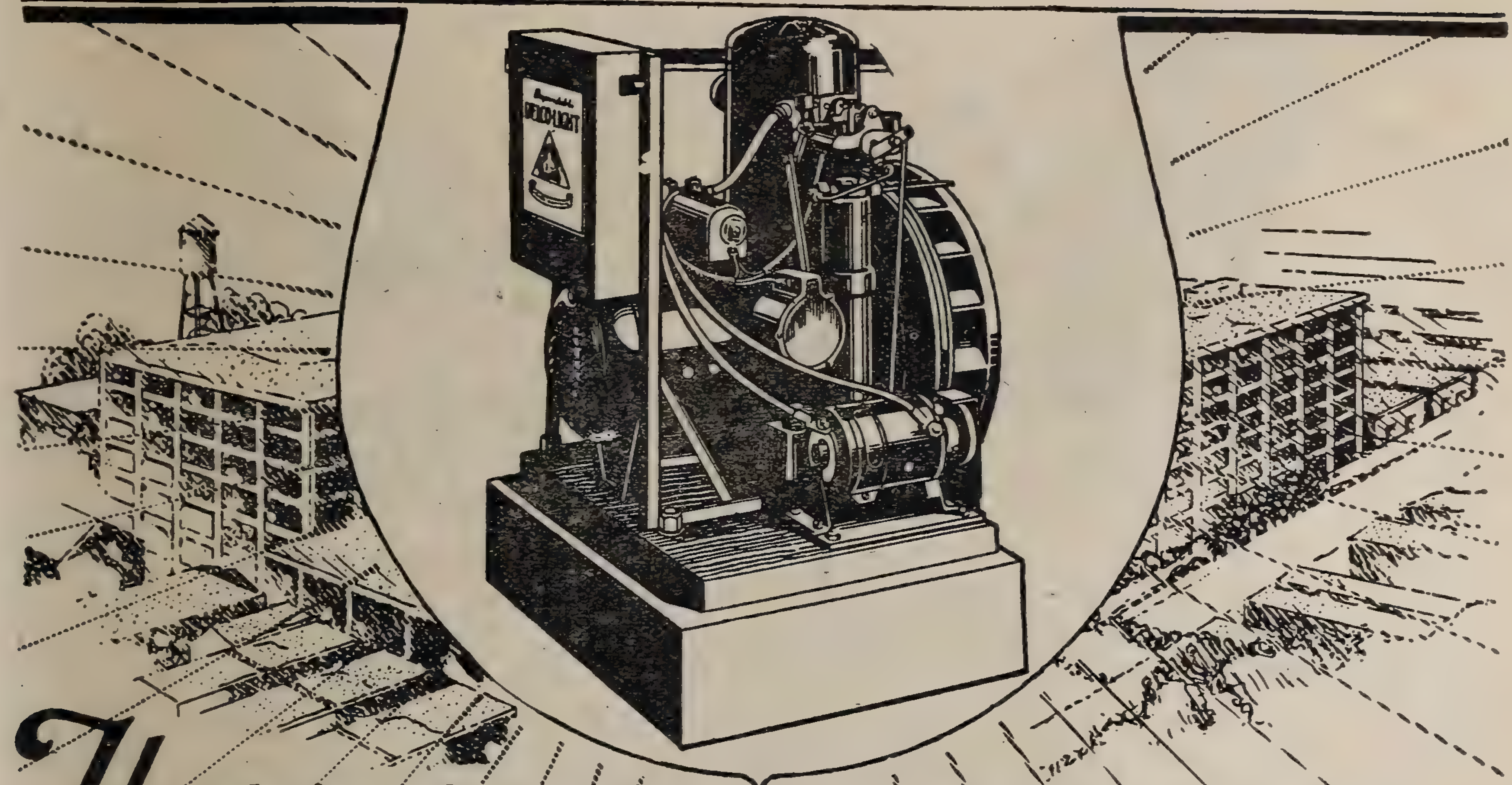
Member of the C.S.T.A.)
Reford Building, Toronto.

Perhaps this tale about Arthur Roberts the comedian is not generally known. One day Roberts hired a cab and, pretending to be "up from the country," asked the driver in the course of the journey what was the best show to see in London. "W'y, sir," replied the cabby readily, "you oughter see Arthur Roberts in 'Gentleman Joe;' 'e's a fair knock-out,'eis." "And who is he?" asked Roberts with feigned interest. "Blimy," breathed the driver, "you dunno Arthur Roberts? Well, you must be a stranger to London!" "Yes," said Roberts, "I am." At the end of the ride the actor gave the man a sovereign tip, and the cab drove off. Fifty yards down the street, the cabby turned and waved his whip cheerfully. "Good-night, Arthur," he bawled.

An employee of the Mint was going on his summer holidays and, not unnaturally, he took a supply of new notes with him. At the end of his stay in a Brighton hotel he paid his bill with the spotless "fivers" and the cashier became a little suspicious of their unsullied purity. "Excuse me," he said significantly, "where did you get these notes?" The man from the Mint laughed. "Oh, you needn't be frightened of them," he said reassuringly, "They're quite O.K. I made them myself." "Yes!" said the cashier in a queer tone as he reached for the telephone, "that's just what I thought."



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Massey Library--How to Use It

(Continued from page 5)

file in the College Library and is not for the use of students. When it is found expedient to refer to the Package Library for literature, application for the same must be made through the Library.

In an article of this kind, I can only briefly call attention to our principal library tools. As students begin to use the Library further information will doubtless be required. In conclusion, I would like to say that the members of the Library staff are anxious to be of assistance whenever their services are required.

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